An Address

ON THE

ANTISEPTIC MANAGEMENT OF WOUNDS.

Delivered at King's College Hospital in the London Post-Graduate Course, Jan. 18th, 1893,

BY SIR JOSEPH LISTER, BART., F.R.S.,
SURGEON EXTRAORDINARY TO THE QUEEN.

(*Continued from p. 180.*)

BEFORE proceeding to consider the second division of our subject, the best form of external dressing for the wound, I have a few words to say regarding the course you might adopt in case you were called upon to operate under circumstances where you had no chemical antiseptic at your disposal. First, you should have your sponges well boiled, and also the fine silk threads which you will use for securing bleeding points (the ends being cut short). Such instruments as will not be injured by the process may also be purified in the same way; and for washing the sponges during the operation it will be well to use boiled water, although, from the facts before brought under your notice, you may infer that unboiled water, if free from visible floating particles, would not be very likely to cause mischief. Towels dipped in the boiled water and spread about the seat of operation will diminish the chance of contamination of the wound from surrounding objects. Then thorough cleanliness in the ordinary sense, by the free use of soap-and-water, must be practised for the hands of the surgeon and his assistants and for the skin of the part operated on. For sutures under these imperfect antiseptic arrangements materials incapable of absorbing putrescible liquids—silver wire, silkworm gut, or horsehair—should be used rather than sterilised silk, in order to avoid suppuration in the stitch tracks.

For dressing the wound in the absence of chemical antiseptics, dry substances—such as absorbent cotton wool or old linen (preferably boiled before use)—are far better than anything kept permanently moist, like water dressing. It was shown several years ago by Naegele of Munich that the more concentrated an organic solution is the less easily do bacteria develop in it; much in the same sort of way as a cook who makes her jam has to boil it down until the syrup has a sufficient proportion of sugar in it, or else fungi will develop in the preserve. And so the blood and serum oozing into a dry dressing, becoming more or less inspissated by evaporation, are in proportion a less favourable soil for microbic development. If we look back to our old experiences with water-dressing, we can only wonder that wounds ever united by first intention at all under such treatment. The water-dressing, clean at the moment of application, was invariably stinking when it was taken off in the course of twenty-four hours; and it seems astonishing that septic mischief ever failed to develop in a wound with this putrid mass lying over its outlet. It only serves to illustrate how powerful are the means by which Nature defends herself against the microbes. But with dry dressing, in conjunction with the care in other respects which I have referred to, you would find that complete primary union, instead of being a rarity as formerly, would be a matter of very frequent occurrence; although you would not be at all able to reckon upon the constancy of aseptic results which may be obtained by the right use of chemical antiseptics.

Iodoform is an agent very much trusted by some surgeons. It is a very peculiar antiseptic, having extremely little influence over the growth of bacteria outside the body. This was illustrated by a very simple experiment I performed a good many years ago. I took two purified stoppered bottles and put into one of them cotton wool strongly impregnated with iodoform—10 per cent. iodoform wool; and into the other ordinary absorbent wool. I poured milk from a dairy into each, just sufficient to soak the mass of cotton, and left them at the temperature of the air. In one of these bottles the milk was thus most intimately associated with iodoform; yet it soured like that in the other bottle, though somewhat later; and when I examined a little of the iodoform wool under the microscope, I found the milk which it contained teeming with bacteria of different species. That simple experiment was enough to show how little effect iodoform has upon the growth of microbes outside the body. This conclusion has since been amply confirmed by the observations of others. It has been even ascertained, as a matter of experiment, that if iodoform is dusted over sterilised cultivating jelly in a test tube, growth will take place from organisms that were contained in the iodoform itself.

But, though such is the case, it is nevertheless unquestionably true that iodoform exercises a powerful antiseptic influence upon wounds. The most probable explanation of this apparent anomaly is that suggested by Behring—namely, that iodoform produces its beneficial effects, not by acting directly upon the bacteria but by inducing chemical changes in their toxic products. Behring has ascertained as a matter of fact that some of these toxines are altered chemically by iodoform and at the same time rendered harmless. Two of his experiments, performed in conjunction with De Ruyter, may be quoted in illustration. A ptomaine obtained from a culture of pyogenic micrococci killed a mouse in twelve hours when injected pure into the peritoneal cavity, but proved entirely harmless under similar circumstances when mixed with a little iodoform. Again, a sample of decomposing pus, which had fatal effects when introduced unmixed into the peritoneum of the mouse, had no influence whatever upon the health of the animal if treated with iodoform, which meanwhile left intact the pyogenic microbes.[1] In the absence of their toxic products, the bacteria could do little harm, and would probably soon be disposed of by phagocytosis.

We seem thus able to understand how iodoform dusted over the cut surfaces of a wound may have great antiseptic efficacy, more especially as it remains for a long time unconsumed among the tissues, and is remarkably free from irritating properties. In circumstances where it is impossible to exclude septic agencies, as in operations upon the mouth or the rectum, or when putrid sinuses are present, iodoform is of very high value. Before applying the iodoform in such cases we mop the cut surface with a solution of chloride of zinc, 40 gr. to the ounce of water, which has a remarkable power of retarding septic changes in wounds in the presence of contaminating materials. On the field of battle iodoform is probably the best means at present at our disposal. Again, in compound fractures, whilst we endeavour to purify the wound with strong carbolic lotion, we cannot be certain of entire success in this respect, and I should be sorry to dispense with iodoform. But if you operate when the integument is unbroken, with a sufficient space around for the application of a dressing, I would not recommend you to use it. To apply it to the interior of the wound would be then entirely superfluous, provided that you have taken care to avoid its contamination while operating, and have at your disposal some trustworthy material for preventing the subsequent access of septic mischief. This, as we have seen, iodoform cannot be expected to do. A porous material impregnated with it, when soaked through and through with blood or serum, will allow the microbes of external defilement to propagate in its substance, though doubtless more slowly than if the iodoform were absent. It is essentially in the interior of the wound that the virtues of iodoform are displayed; and the original Vienna practice of dusting the cut surface with the powder and applying simple absorbent cotton externally gave results which were much extolled at the time, and were probably not far inferior to those obtained by the use of iodoform wool or iodoform gauze. An iodoform dressing affords no security against the penetration of septic microbes to the outlet of the wound. At the same time, it is easy to see that circumstances may often arise in which iodoform dusted over the cut surfaces may fail to act effectually, as, for example, when those surfaces are separated by extravasated blood.

Any material that is merely aseptic, such as cotton wool or gauze sterilised by heat, having nothing in its substance to check in any degree the development of microbes, will allow the septic evil to spread freely to the wound from the external world if blood or serum happens to penetrate at any point to the exterior. In addition to this fatal objection such a dressing has other disadvantages. The necessary sterilising apparatus, though it may be provided at a public institution, cannot well be at the disposal of the private practitioner; and, further, the merely aseptic material, having no power to

[1] See De Ruyter, zur Iodoformfrage: Langenbeck's Archiv, 1887, p. 984. Some bacteria are more affected than others by the direct action of iodoform. In the special case of the cholera microbe it seems to act as a poison. See Nelsser, Centralblatt für Bacteriologie, 1888, p. 337.

correct any accidental defilement, must require an almost impossible degree of care in its manipulation. I have seen this system in operation in very able hands, with results by no means satisfactory.

(To be concluded.)

Lettsomian Lectures

ON

SYPHILITIC AFFECTIONS OF THE NERVOUS SYSTEM.

Delivered before the Medical Society of London on Feb. 6th, 1893,

BY JOHN S. BRISTOWE, M.D. LOND., LL.D. EDIN., F.R.S.,

CONSULTING PHYSICIAN TO ST. THOMAS'S HOSPITAL.

LECTURE III.

MR. PRESIDENT AND GENTLEMEN,—In announcing that I would devote the earlier part of the present lecture to the subject of syphilitic pachymeningitis my main object was to give myself the opportunity of bringing before you a case in which chronic thickening of the dura mater of undoubted syphilitic origin was present, but which was yet free from any of the characteristic traits of that affection.

A man twenty-eight years of age first came under my care on June 16th, 1887. He had had no serious illness until in January, 1879, he contracted syphilis. He was a healthy looking man, suffering from headache mainly across the forehead, aching of the eyes, dimness of vision and loss of muscular power. There was no definite paralysis, but the grasp of the hands was weak and he walked slowly and with short steps. Still there was no evidence of giddiness or incoördination. The knee-jerks were brisk, but no clonus was present. Sensation was everywhere perfect. The bladder and rectum were under control. There was no obvious oculo-motor paralysis, but the patient said he sometimes saw double when he looked to the right. The pupils were equal and acted to light and accommodation. His sight was defective, so that he could not read, and was not improved by glasses. Intense optic neuritis was present in both eyes. His speech was slow, but not stammering. This, however, he says was natural to him. There were no tremors of the lips or tongue. The hearing was good. During his stay in the hospital he progressively improved. He was discharged on July 17th. He was readmitted on Oct. 1st, 1889. On admission he was dull and expressionless, but otherwise fairly healthy-looking. He complained of headache in the right temporal region; his memory was bad, and at times he seemed to lose himself, would turn and try to pick up something from the floor and forget where he was. His sight was very bad, the fields of vision much contracted, and there was abundant evidence of his old optic neuritis. In other respects there was no change, and the abdominal and thoracic organs were apparently all healthy. On the day after admission he had seven fits. These were of short duration. In two or three, which occurred when he was out of bed, he fell down. In those which attacked him in bed he sat up, gathered the bedclothes into a bundle in his hands and twisted round until his face was directed to the back of the bed. He was quite unconscious during the attacks, did not know when they were coming on, and on coming to looked dazed and frightened. Although his headache continued in a greater or less degree and was sometimes severe, he had no return of fits attended with unconsciousness, and, so far as his mental or nervous symptoms were concerned, improved as he had done when previously under my care. During the first week, however, after admission the temperature rose in the evening generally to 100° or 101°, but on Oct. 4th it reached 103·6° and on the 5th 104·6°, on both of which occasions he complained of feeling cold and profuse sweating followed. It is probable that these febrile attacks were neurotic. Shortly after admission the fields of vision were carefully examined and found much contracted, mainly in the right half, suggesting (as Mr. Nettleship observed) disease in the right side of the chiasma. He gradually sank and died on Nov. 19th, remaining sensible to the last. The membranes at the base of the brain were somewhat opaque and here and there white streaks, together with adhesions, suggested old inflammatory disease. But no gross changes were observable. Over the right occipital lobe the dura mater and the pia maters were so firmly adherent to one another and to the brain that it was difficult to separate them. The cortex involved was softish and yellow, but such changes did not extend into the white matter. The affected area was quadrilateral in shape, limited in front by the angular gyrus, which was not involved, behind by the posterior part of the great longitudinal fissure, below by a horizontal line continued from the Sylvian fissure and above and in front by the posterior extremity of the superior parietal lobule. No further disease was found in the brain, and the vessels were healthy. It was believed during the patient's illness that he was suffering from intracranial syphilitic tumours, and it is possible, of course, that he may have had gummata which had undergone absorption. But, however that may be, there is little reason to doubt that the meningeal thickening and adhesions were of syphilitic origin.

[Dr. Bristowe then referred to another case, probably of syphilitic origin, in which the left portio dura and the nerves of the right arm were involved and which improved greatly under anti-syphilitic treatment. The lecturer then continued:]

The case I am now about to quote is one of those obscure yet interesting cases which I have pigeon-holed in the hope that something might arise in the course of subsequent experience to throw light upon it. In thinking of it the suspicion of syphilis has been constantly in my mind.

A single woman aged thirty-two was admitted under my care on Feb. 27th, 1887. She had been in straitened circumstances, and a little before Christmas had begun to feel poorly and to suffer from sickness. The sickness had continued, both after and independently of meals, and she had become weak and thin. It was stated that she had lately been indulging in undiluted spirits. She went into St. Thomas's Home, under Dr. Edmunds, on Feb. 8th. The sickness ceased in the course of two or three days, but it was thenceforth very difficult to make her take food. The strangeness of her manner increased, and before long there were marked loss of memory and inability to recognise friends. In addition her sight became more and more impaired, and on the 18th she could not see persons about her, and asked for a candle in broad daylight. About the same time she complained of unpleasant odours, and on Oct. 24th it was discovered that she could not smell violets. Her eyes were examined on the 28th. "Right fundus generally hazy, margins of disc ill-defined and streaky, one or two flame-shaped hæmorrhages around it, other hæmorrhages and two or three brightish white dots about the yellow spot, no apparent swelling of disc. Left eye generally in the same condition as the right." She was transferred to my ward on Oct. 27th. She was a thin woman, making no complaint, lying on her back quietly, or merely picking at the bedclothes. She answered inconsequently, and often used a Christian name as of some one of her friends whom she imagined to be present. There was neither anæsthesia nor paralysis, but the limbs were flaccid, and there were no tendon reflexes. She would not open her eyes or mouth and resisted all attempts made to open them by others. No defect of oculo-motor muscles or of pupils. Fundi as before; no definite optic neuritis, and indeed, as Mr. Nettleship pointed out, the condition of the fundi was sugestive rather of albuminuric retinitis than of intra-cranial disease. Sordes on lips; tongue coated; pulse 104, small and soft; temperature 99·8°; respiration 20; evacuations passed unconsciously. The urine had a sp. gr. of 1024, was free from albumen, but somewhat alkaline, turbid and presented crystals of triple phosphate and bacteria.—March 1st: Lay as if asleep; roused with difficulty; breathing stertorous. The appearance of the areola of the nipples at this time led to a re-examination of the abdomen, when a firm rounded mass was obscurely felt rising in the mid-line to about one inch above the pubes. It was assumed to be an enlarged uterus.—March 2nd, 1.45 A.M.: Breathing of the Cheyne-Stokes character, corneal reflexes slight, no twitching or other movement. The patient soon died.

Necropsy.—The skull, membranes, venous sinuses and arteries were all healthy. There was no lymph or tubercle, or undue congestion of surface. In the right ascending parietal convolution just in front of the commencement of the intra-parietal fissure was a round patch of atrophied cortex about as large as a sixpenny piece. There was a slight excess of fluid in the ventricles. The substance of the brain

generally was quite healthy. But on careful examination what was at first supposed to be an infiltrating growth was found to surround the aqueduct of Sylvius, to extend thence upwards so as to involve all but the surface of the corpora quadrigemina, and forwards so as to include the inner aspect of each optic thalamus as far as the corpora albicantia. In front the affection of the thalami was quite superficial, but on tracing the morbid process backwards these bodies were found more and more encroached on, until at length they were implicated in their whole thickness and the adjoining parts of the internal capsule were also involved. The soft commissure was included. The lesion was quite symmetrical and the affected tissues were somewhat swollen, had the same consistency as the healthy brain tissue, presented a pinkish hue and were studded with punctiform hæmorrhages. Microscopic examination showed the change to be simply inflammatory. The bladder was dilated, hypertrophied and injected; the pelves of the kidneys were also congested and contained a small quantity of pus-like fluid. The kidney structure was healthy. The uterus contained a three months' fœtus and presented a few small fibromata. All the other organs were healthy.

My reasons for suspecting syphilis in this case are the facts of the patient's immorality and the discovery of an old area of degeneration in the brain and the difficulty of accounting otherwise than by syphilis for the curious lesion which caused her fatal illness.

Having now brought before you all the cases of fatal typical or suspected syphilitic disease of cerebral arteries, of intra-cranial gummata, and of syphilitic inflammation of the membranes or substance of the brain, which I had selected for the purpose, it may be convenient to consider, however briefly, the subject of the differential diagnosis of these several lesions. Judging from the analogies afforded by embolic obstruction of cerebral arteries, it might not unreasonably be supposed that obstruction of vessels due to syphilis would be indicated by paralytic symptoms of sudden onset; while, on the other hand, we know that the growth of tumours is, as a rule, revealed by the gradual development of headache, giddiness, and sickness, the specific signs usually being evolved at some later period; and hence it might seem not unlikely that we have a ready means of differential diagnosis. But, on the other hand, so far as I know without exception, in all the cases of syphilitic obstruction of arteries that have come under my immediate observation the onset of symptoms has been gradual, there has been before the occurrence of paralysis a prodromal period of headache and sickness, or other morbid signs, due doubtless to the inflammatory changes going on in the bloodvessels themselves or in their immediate neighbourhood; and further, in no inconsiderable number of cases a brain tumour goes on growing without causing any appreciable symptoms until suddenly the patient has an epileptic fit or some other attack which forms the clinical starting point of his malady. Again, it must not be forgotten that gummata, pachymeningitis and disease of arteries are often of simultaneous development. Nevertheless, it may be admitted that if in the course of vague cerebral symptoms a syphilitic patient suddenly has some kind of seizure and becomes hemiplegic the probability is that he has obstruction of vessels with the softening or hæmorrhage which such obstruction is liable to induce; and, on the other hand, it may equally be admitted that if such a patient suffers from severe protracted cerebral symptoms, such as headache, giddiness, vomiting, optic neuritis, mental perversion or failure, and occasional or periodical epileptic attacks, the probability is that he is the subject of gummata or syphilitic pachymeningitis—a diagnosis the probability of which would be increased if at the same time there was evidence of syphilitic disease of the periosteum of the skull or of the ears. Again, gummata and pachymeningitis are specially apt to affect the parts at the base of the brain, and to implicate nerves; and hence the association of even vague cerebral symptoms with progressive and disorderly implication of the cerebral nerves points to one or other or both of these affections; and, in fact, there is no doubt that we are most likely to meet with hemiplegia in connexion with obstruction of vessels and implication of nerves in connexion with a gummatous tumour or infiltration. It must not be forgotten, however, that syphilitic obstruction of vessels is not limited to the middle cerebrals, as embolic obstruction for the most part is, but that any of the arteries may suffer, and that as a consequence we may get softening of the pons or crura cerebri, and together with more or less hemiplegia implication of many nerves, a condition closely resembling the consequences of basal gummata. On the whole I should be disposed to say that, having regard to the mode of invasion, to the character and frequency of epileptiform attacks, to the fact of the sudden or gradual development of hemiplegia, to the grouping and evolution of paralyses of cerebral nerves, we may in many cases form a reasonably accurate differential diagnosis, but that in the majority of cases no such accuracy is attainable, and, I may add, is unimportant.

I propose now to bring before you as clinical studies two or three cases presenting points of special interest, but in which the diagnosis has not been put to the test of post-mortem examination.

The first is a case which I had the privilege of seeing on several occasions with Dr. C. D. F. Phillips. The patient was an unmarried man, aged forty-two, who had primary syphilis about twenty years previously. He dated his illness from the beginning of the year. He then had what he regarded as a recurrence of influenza, and noticed that he did not see, or failed to observe, things on his right side. These symptoms had continued, but during the last few months he had lost flesh and strength and became low-spirited. A month or two previously he became deaf in the left ear; this improved in a short time, and then the right ear became similarly affected. Later the left ear became again the worse of the two. For some weeks he had complained of a sense of coldness and numbness throughout the whole of the right half of the body, of "pins and needles" in the right hand, of a feeling of insecurity in walking, of a tendency to fall over or stagger to the right, and of clumsiness in the use of the right hand. His speech seemed to have been getting thick for the last few weeks, and he stated that he had occasionally seen double. He never had fits. He complained still of the coldness and numbness of the right side, of the tingling in the hand, and of some difficulty in the free use of the arm and leg; and when he tried to walk I observed a little tendency to stagger and to fall over to the right side, but he could feel (apparently perfectly) everywhere, and there was no obvious impairment of strength in either of the affected limbs; moreover, he could stand steadily with his eyes shut, and the reflexes were all normal. There was general but incomplete paralysis of the left side of the face; there was no affection of the tongue or palate. He talked thickly, slowly, and with some hesitation, and I thought there was a little tremor of the lips; phonation was perfect. The left pupil was smaller than the right, but both pupils acted to light and accommodation. He could not follow with his eyes; he could not move either of them to the left beyond the mesial line, and could move them only half-way towards the right canthi, and that only with much effort and with the production of nystagmus. He could move the eyes up and down readily, but nystagmus attended the upward movement. There was no ptosis. On rough examination there seemed to be no contraction of the fields of vision. The fundi were normal. He was deaf with both ears, especially with the left. He could, however, hear a loud ticking clock with this ear if it was applied to the ear itself or to the head. There was no evidence of disease in either the thoracic or the abdominal viscera. The last time I saw him the more noteworthy changes for the worse that had taken place were the development of right-sided palsy, the weakening of the muscles supplied by the motor branches of the fifth pair, the increase of the paresis in the lips, tongue, and muscles of deglutition, producing symptoms like those of glosso-labio-pharyngeal palsy, and the supervention of shortness of breath and absolute loss of power in all the muscles, causing lateral movements of the eyes. He continued to grow worse, and soon afterwards, while in the act of drinking, died suddenly, apparently from laryngeal spasm.

There is very little reason to doubt that the above was a case of cerebral syphilis. But what was the exact nature of the lesion present and where was it? I will endeavour to answer this question by narrating another case, which, by-the-bye, may furnish an argument against my syphilitic hypothesis. The case is one of which I published the full details a year or two ago in *Brain*.

[The lecturer then gave some particulars of a very similar case, and went on to say:]

It is obvious that, while there was a good deal of difference in details, there was a striking resemblance in many important particulars between these two cases. In both there was hemiplegia, beginning with a sense of numbness and coldness; in both there was paralysis of the seventh nerve of the opposite side; in both there was implication of the fifth pair; in

both there was deafness, attended with loud noises in the ears; in both there was difficulty of speech, mastication and deglutition; in both there was a peculiar and striking form of ophthalmoplegia externa; and in both there was absence of fits and of optic neuritis. In the latter case I assumed during life that the patient was suffering either from softening of the pons connected with diseased and obstructed vessels or from a tumour in the same situation. The question of syphilis was in my mind, but I did not venture on any decided opinion on the subject. The necropsy revealed in the substance of the pons a cheesy tumour, about as large as a good-sized chestnut, surrounded on every side by a thin layer of nervous substance, and, embedded in the surface of one of the lobes of the cerebellum, another mass as large as a hazel-nut, which presented a dense, fibrous capsule about half a line thick, and of which the interior consisted of cheesy matter, becoming dry, cretaceous, and friable. There was no further disease of the brain, and the vessels were healthy. In the apex of the left lung were some indurated patches and scars, obviously due to old tuberculous disease. The masses in the brain were tuberculous. An interesting point in the case is that the tuberculous tumour in the cerebellum must have been of old date, like the scars in the lungs, and that there was no history of symptoms due to its presence. With the incidents of this latter case before us, I think it may be safely assumed that the intra-cranial disease in Dr. Phillips' case involved mainly, if not exclusively, the pons Varolii, and that it was either a large gumma or a patch of softening connected with obstructed arteries.

Another case which was of exceeding interest to me came under my care on Jan. 17th, 1883. It was published by me in a paper entitled "Cases of Recovery from Symptoms pointing to the Presence of Progressive Organic Cerebral Disease," which appeared in *Brain* of April, 1885. Its chief interest lies in the fact of practically complete recovery from ingravescent symptoms of a very grave and threatening character. The patient was a single woman, a nurse, aged thirty-nine. She had had good health, and there was no history or evidence of syphilis. She was healthy looking, but she could not walk or even stand without assistance, staggered like a drunken person and had a tendency (she said) to fall to the right side. There were no ataxic movements. There was slight but obvious paralysis of the right facial nerve; the right eyelids closed imperfectly, the right upper lid obviously acted feebly, and the right side of the face was evidently smoother than the other, but the right angle of the mouth moved freely when she laughed. On Feb. 12th she complained that her legs felt stiff and that they jumped at times. She could move her legs pretty freely, but they tended to become stiff, especially at the ankle- and knee-joints; there was marked exaggeration of the tendon reflexes, and on the left side ankle-clonus. These phenomena continued for a time, the left leg being worse than the other. Ankle-clonus was obtained somewhat later on the right side. On Feb. 3rd it was noticed that the facial paralysis had increased, and also that she had frequent twitchings of the left angle of the mouth; and on the 20th (these symptoms continuing) it was noticed that she had occasional twitchings of the left eyelids, and slight tremors in the left hand. She had been complaining for some days that her eyesight had been getting indistinct; and an examination made on March 1st showed that, while the ocular paralysis and fields of vision remained contracted, her discs were somewhat pale and she was colour-blind. On March 30th, after suffering for a few days from much more intense headache than usual, she for the first time complained of a feeling of pins and needles in the right hand and arm, and of pain in the right shoulder. The arm also became weak, and in the course of a week or two slightly flexed at the several joints, the fingers especially suffering, and the pain extended from the shoulder downwards. The paralysis was never complete, but attained its maximum towards the end of April. During the greater part of the time terminating with the last date the patient had been getting slowly but steadily worse; nevertheless, during April some favourable indications were noticed. On the 11th she saw single for the first time, and on the 15th it was noticed that the movements of the eyes were perfect, and that she was recovering her colour vision. Early in May she began to improve decidedly. She still suffered from headache, giddiness and nausea, but the attacks were less frequent. About the 10th she began to sit up, and a week or two later to walk with assistance. I need only add that when she left the hospital on June 4th there was scarcely a trace of headache or nausea; the facial nerve was not obviously paralysed; her visual functions were perfect; the right hand and arm had almost completely regained power; there had been no startings in the legs for weeks, and she could walk well. She went for a month to a convalescent home, and on her return appeared to be, and expressed herself as feeling, quite well. I saw her some months afterwards and she continued well.

What the nature of the case was remains unsettled. The question as to whether it was a functional or hysterical disorder was fully considered, and rejected; but nevertheless that rejected view may have been the true one. On the other hand, the curiously ingravescent progress of the disease, involving hemiplegic and paraplegic symptoms, paralysis of various nerves at the base of the brain, and visual troubles, undoubtedly suggested some progressive lesion. Moreover, she recovered under the persistent use of iodide of potassium and mercury.

Syphilitic affections of the spinal cord or its membranes are by no means uncommon; but I have to confess that, although I have naturally seen many cases of what I have regarded as syphilitic paraplegia and some which have proved fatal, I have never had the privilege of following one of these latter to the post-mortem room, so that my personal experience of the morbid anatomy of such cases is very deficient. There is abundant proof, however, that within the spinal canal, as within the skull, syphilitic arteritis, gummata, and syphilitic pachymeningitis are all liable to occur. I propose to quote briefly three cases, each of which presents some point or points of special interest.

The first is that of a girl aged twenty-one, who came under my care on June 7th, 1881. There was no history of chancre, but in the preceding August she first noticed a scaly eruption which increased and became general during the next few months; and at Christmas she became a patient of Mr. Nettleship for an attack of syphilitic iritis. On admission a week later she had no voluntary power whatever over the right lower extremity, and could move the left only very slightly. There was no anæsthesia, but she had pain in her legs. The superficial and tendon reflexes were all very brisk and cloni were readily obtainable. She had incontinence of urine. She remained in the hospital six months, during which time (after a period of hesitation) her paralytic symptoms slowly improved, and at the time of her discharge, although the legs were still somewhat weak and dragged, she could walk without assistance and she had fairly well recovered power over the bladder. Her treatment both by Mr. Nettleship and while under my care was strictly anti-syphilitic. The points of chief interest are that when the paraplegia appeared the patient was still suffering from secondary symptoms, and that she had been under the influence of specific treatment for about five months.

My second case is that of a man aged thirty-one, who was admitted under my care on June 19th, 1891. He had had a chancre in 1881 followed by an eruption. His present illness began in January with pain extending down the right arm. After this had continued for three weeks he observed that the limb was becoming weak and thin. These symptoms continued, and three weeks ago he was attacked with pain in the right leg, which was followed in the course of two or three days by pain in the left leg, and loss of feeling in both legs. On June 3rd his urine began to pass from him involuntarily, and three days before admission this condition was replaced by retention. On the 23rd it was noted that during the previous night he had become rigid and his speech indistinct; that in the morning this indistinctness of utterance was still present; that his left arm and the lower part of the left side of the face were paralysed; that he had some difficulty in swallowing solids, and that he passed his motions involuntarily. During the next few days the loss of power in the left arm increased, his legs became quite anæsthetic in their whole length; he had constant jerkings in the legs; and he suffered from pain referred to both temporo-maxillary articulations, to the muscles of the left arm and to the sternum. Subsequently there was some improvement as regards the movements of the left arm and the sensibility of the legs; but bedsores formed, his urine became alkaline and offensive, and finally hypostatic congestion of the lungs supervened and the case ended fatally. No necropsy was allowed. The interesting features in this case are, that the disease obviously began with gummata or inflammation of the membranes of the cord about the cervical enlargement, the cord itself becoming involved later, and that syphilitic disease of the brain supervened.

The third case is one that has recently been under the

care of my colleague, Dr. Payne. The patient was a man aged twenty-four. He never had headache, nor does he allow that he has ever had syphilis. He is a robust-looking man. There is marked incoördination of movement in both lower extremities. He stumbles as he walks, especially when turning round, and he cannot stand with eyes closed. He has impairment of sensation in the left leg from the knee downwards, and in the sole of the right foot and when walking feels as if he were treading on something soft. Knee-jerks and plantar reflexes absent. The muscles are not wasted and have considerable power. He has shooting pains in both legs but mainly in the left. He has numbness in the tips of the fingers of the left hand and the movements of the part are incoördinate and clumsy. The conjunctiva of the right eye is deeply injected and discharges muco-pus. The cornea is ground-glass like, especially in its upper and inner part. There is no sign of ptosis and the movements of the eyes are perfect. The pupils are equal and act to light and accommodation. The left ear is somewhat deaf. The teeth are normal. He can micturate voluntarily; but when the bladder contains much urine this tends to trickle away. He improved under the use of iodide of potassium and mercury, and when I saw him seven weeks after admission his walking power had much improved, but he was still ataxic and unsteady and incapable of walking without assistance; he had quite recovered the use of his left arm; the numbness had disappeared from the left hand and right foot, and remained only in the course of the left shin; he had lost his headache and neuralgia; his eye had greatly improved; he was still deaf and his knee-jerks were absent. His left testicle was larger than the right, and its epididymis was large, nodulated and hard.

This case was interesting partly because the question arose as to whether the patient was suffering from acquired or congenital syphilis; partly because, as in the last case, paraplegic symptoms were associated with symptoms referable to intracranial mischief, but chiefly because the symptoms, so far at any rate as the lower extremities were concerned, presented the characteristic features of locomotor ataxy. I feel no doubt myself that the syphilis was acquired.

Of syphilitic affection of the nerves, apart from those at the base of the brain and in the spinal canal, I have no knowledge or experience; but it seems not unreasonable to assume that nerves in any part of their peripheral course may not only become involved in syphilitic lesions originating in their neighbourhood, but also may be the seat of independent gummatous infiltration of limited extent. Such cases have been described and are probably not altogether uncommon; at any rate, localised anæsthesia, neuralgia or paralysis occurring in syphilitic persons and not due to cerebral disease might reasonably be suspected of such an origin and be treated accordingly. Symmetrical peripheral neuritis, however, occurring in a syphilitic patient I should certainly be indisposed to regard as syphilitic, excepting in that vague sense in which many constitutional symptoms following on syphilis are regarded as parts of that disorder. I do not purpose to discuss the symptoms due to implication of each of the intracranial nerves; but I shall content myself with remarking that total and complete ophthalmoplegia externa I have never met with excepting in cases of functional nervous disorder, and that there is no doubt that in syphilis the motor nerves of the eyes are peculiarly prone to suffer, and that not unfrequently all of them become involved in a greater or less degree. In my experience the paralysis always remains incomplete or unsymmetrical.

I had intended to say much more than I have done concerning syphilitic affections of the nerves and to add a few remarks in respect of the treatment of syphilis. But, gentlemen, I have already occupied the whole of the time you have placed at my disposal, and I do not feel justified in further encroaching on your kindness, the more especially as there is nothing in what I had intended to say on either of these topics that is particularly novel or particularly interesting. Here, then, I conclude my Lettsomian lectures, and thank you, Mr. President and gentlemen, for the great kindness and patience with which from first to last you have listened to them.

VACCINATION GRANTS.—The following gentlemen have received the Government grant for efficient vaccination in their respective districts:—Mr. Evan Lloyd, M.R.C.S., Ammanford, Carmarthenshire, and Mr. C. M. Leakey, No. 2 district of the Caistor Union.

THE PROOF THAT CHLOROFORM HAS NO DIRECT ACTION ON THE HEART.

BY SURGEON-LIEUTENANT-COLONEL E. LAWRIE,
RESIDENCY SURGEON, HYDERABAD, DECCAN.

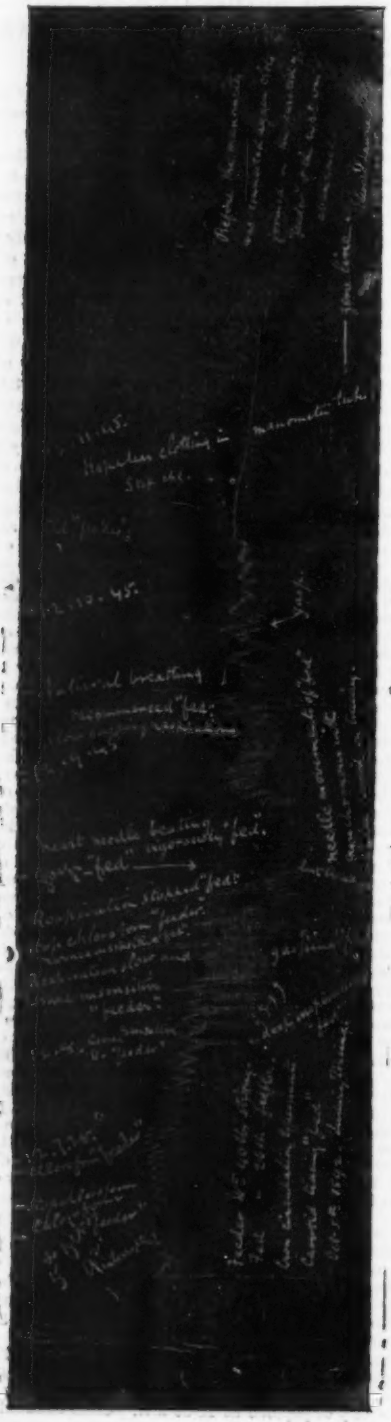
IN the summer of 1890 Dr. Gaskell was requested by me to examine and report upon the tracings of the experiments of the Hyderabad Commission. Eventually he and Dr. Shore were provided with funds (£250 in all) by the Nizam's Government to enable them to carry out additional experiments and they submitted a report which reached me on Aug. 25th, 1892. The report condemned the Hyderabad Commission's work almost *in toto*. It denied our facts, imputed dicta to us which we never propounded, and ridiculed most of our methods and conclusions—apparently because we were not trained physiologists. A number of injection and cross-circulation experiments were described, and the report ended by giving me credit for administering chloroform successfully in a manner which is the merest travesty of the method I actually employ. Dr. Gaskell's and Dr. Shore's conclusions are thus stated in paragraph 107 of their report:—"To our minds it is perfectly clear that the weakening effect of chloroform on the heart is the chief if not the only cause of the fall of blood pressure seen upon administration of the drug, and it is difficult to understand how the Hyderabad Commission, *with Brunton to assist them in the interpretation of their curves* [the italics are mine] could have arrived at the conclusions they have published; for their experiments and their large number of curves confirm again and again the observations of others and point directly to heart failure as the cause of the fall of blood pressure." The grounds for these formidable and alarming conclusions consist mainly of two sets of cross-circulation experiments on dogs and rabbits. In one set chloroform was to have access to the brain alone, and in the other to the heart and to all the other organs except the brain. "In both cases the blood containing chloroform excites the vaso-motor centre and raises the blood pressure when it reaches the medulla oblongata, whilst it depresses the heart's action and lowers the blood pressure when it reaches the heart." Here and elsewhere throughout the report chloroform is spoken of by Dr. Gaskell and Dr. Shore as if it were a sort of pill, and they talk of the heart "ridding itself of chloroform," as if the heart could by any possibility do this so long as chloroform is in the circulation. The conclusions of Dr. Gaskell and Dr. Shore are at variance with my clinical experience, which is that chloroform never under any circumstances affects the heart directly. They are also at variance with the experiments of the Hyderabad Commission, which confirm my practical experience in every particular. The Hyderabad Commission demonstrated that, whether chloroform is given in large or small doses, lowering of the blood pressure is a normal condition of chloroform anæsthesia. In itself a fall of the blood pressure is not only free from danger, but a safeguard. The information we required as to the exact cause of the harmless fall of the blood pressure under chloroform was not furnished to us by Dr. Gaskell's and Dr. Shore's report. When the report reached us (Dr. Bomford and myself) we felt bound to resubmit it to Dr. Gaskell and afterwards publish it with our remarks and those of Dr. Lauder Brunton if he chose to make any. Happily this is no longer necessary. We have made experiments which settle once for all the long-disputed question whether chloroform directly affects the heart or not, and no further controversy on the subject is possible.

Experiments and Tracings.

In these experiments the blood of the "feeder" is conveyed to the brain alone of the "fed" and back to the "feeder." If, therefore, chloroform is given to the "feeder," it goes only to the "fed's" brain. On the other hand, if chloroform is administered to the "fed" direct it goes to the heart and all its other organs except the brain.

I. Cross-circulation experiment on Oct. 5th, 1892. "Feeder" large pariah dog 40 lb. and "fed" very weak pariah dog 28 lb. in weight. They were injected with 100 and sixty grains respectively of peptone at 10.30 A.M. Cross circulation was

TRACING OF EXPERIMENT I.



established at noon. Both subclavian, both common carotid, both vertebral arteries, and both internal jugular and right external jugular veins of the "fed" were ligatured, as also was the left common carotid artery of the "feeder." Cross circulation was established from the right common carotid of the "feeder" to the left common carotid of the "fed" and from the left external jugular vein of the "fed" to the right external jugular vein of the "feeder." Chloroform was administered on a saturated cap by Mr. Mahomed Abdul Ghany. Needle in heart throughout.

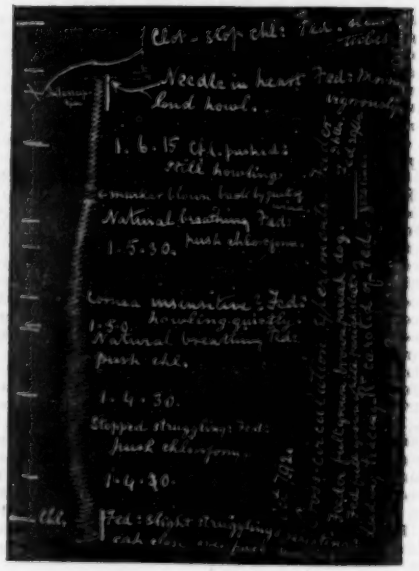
Observations.

H.	M.	S.	
12	7	20	Chloroform to "feeder."
12	8	0	Cornea sensitive in "feeder." Deep respiration in "fed."
12	8	20	Cornea insensitive in "feeder." Respiration slow and gasping in "fed."
12	8	40	Cornea insensitive in "fed." Chloroform stopped in "feeder."
12	8	50	Respiration stopped in "fed," which gave a gasp at 12h. 9m. 5s.
12	9	55	Artificial respiration with bellows to "fed." (When "fed's" respiration stopped it was debated whether artificial respiration should be performed or not, and it was decided to restore the animal solely on account of its weak condition. Otherwise it might have been said that the effects were due to weakness and not to chloroform.)
12	10	15	Natural breathing in "fed." As "fed" came round, chloroform was again given to the "feeder," but clot formed in the tubes and the experiment could not be repeated.

This experiment conclusively shows that chloroform taken up by the lungs and carried to the brain alone produces anæsthesia, stoppage of the respiration and fall of the blood pressure in the usual way. The fall of the blood pressure can only be due to narcosis of the vaso-motor centre in the medulla.

II. Cross-circulation experiment on Oct. 7th, 1892. "Feeder" healthy pariah dog 36 lb., and "fed" healthy pariah slut 29 lb. in weight. Injected with eighty and sixty-five grains respectively of peptone at 10.45 A.M. Cross circulation was established at 12.50 P.M. in the same manner as in the experiment of Oct. 5th, 1892. Chloroform was administered as before by Mr. Mahomed Abdul Ghany.

TRACING OF EXPERIMENT II.[1]



[1] The entry on the tracing of Experiment II. "Cornea insensitive?" was made as follows. The chloroformist called out "cornea insensitive in 'fed,'" and I at once made a mark with the electric marker. Immediately afterwards he said it was a mistake, and the dog was whining; but the tracing could not be altered. Towards the end of the inhalation the pulse tracing was becoming small. This proved to be due to clotting in the tubes.

In this experiment concentrated chloroform was given in the most rapid manner possible for three minutes. There was no anæsthesia, no alteration in the respiration and no fall of the blood pressure. In other words, chloroform, not having access to the brain, but having the freest access to the heart and all the other organs, produced no effect whatever on the heart or on any of the other muscles of the body.

Taken together, these experiments may be said to complete the work of the Hyderabad Commission. They prove clearly that chloroform has no direct action upon the heart and that the fall of blood pressure which is caused by the direct effect of chloroform is due entirely to vaso-motor narcosis, and is therefore harmless.

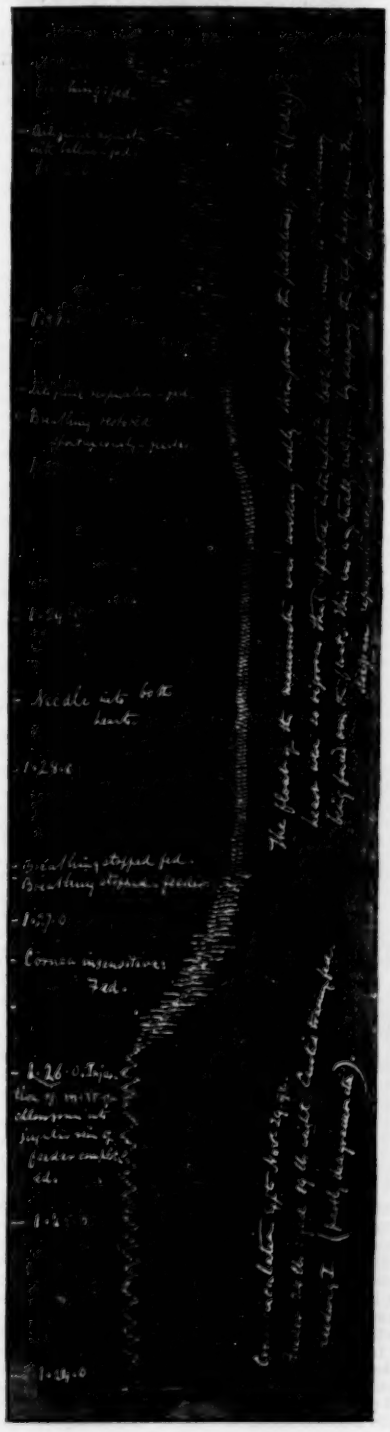
The above and numerous other control and cross-circulation experiments were performed by myself, Messrs. Hehir, Arthur Chamarette and Kelly. They all prove that chloroform can only act on the organism through the nerve centres. Every precaution was taken to ensure accuracy. Notes were taken from the chloroformist by Mr. Ismail Khan and from my record on the drum by Mr. Nursing Rao. Mr. Mullanah assisted Mr. Chamarette. The success of the experiments is altogether due to the skill and dexterity of Mr. Arthur Chamarette.

Between the cross-circulation experiments of Oct. 7th and the final experiments of Dec. 1st, 1892, we have performed cross-circulation experiments nearly every day, and they all prove that it is impossible to affect any part of the system with chloroform except through the brain. The difficulties connected with the establishment and maintenance of cross circulation between two animals are endless and lead to innumerable fallacies. Between two small animals, like rabbits, they are absolutely untrustworthy. It is not sufficient to take off the clamps after the vessels have been connected and then give chloroform, and afterwards ascribe everything that occurs to its effects. The "fed's" brain circulation may be imperfectly blocked, or it may be rapidly re-established, or clots may form in the tubes; or from an immense variety of causes the circulation of the "feeder" may be ineffective and weak. All these and many other sources of error have to be guarded against, and the most extraordinary results may be obtained owing either to clots or to parts only of the "fed's" brain receiving a supply of chloroform. In some cases we have produced without any sign of danger whatever a fall of blood-pressure as the sole effect of chloroform, and in others respiratory failure without fall of pressure. These and other facts appear to show that the respiratory and the vaso-motor centres in the medulla oblongata draw their blood-supply from different sources. In one experiment the "fed" was killed by chloroforming the "feeder." The narcosis then passed off from the "fed's" brain, the corneal reflex was restored, and it moved its head and bit the finger of a student so as to draw blood when he tried to perform artificial respiration in order to revive it. The animal's thorax was opened and the heart was removed. The movements of the eyes and jaws continued quite naturally for fifteen minutes afterwards, as though the animal were making conscious efforts, and the brain only died when the cross circulation failed.

In the cross-circulation experiments of Nov. 29th, 1892, thirty-five minims of chloroform were injected into the left jugular vein of the "feeder"; and the blood pressure of the "fed," to whose brain alone, as was proved by post-mortem examination, the chloroform had access, began to fall immediately. After a minute and ten seconds the respiration of both animals stopped, the "feeder's" a few seconds before the "fed's." Both animals recovered, and chloroform was then forced direct into the lungs of the "fed" by artificial respiration, and it now had access to the "fed's" heart alone. No effect was produced by chloroforming the "fed" for two minutes and forty seconds on the blood pressure or respiration of the "fed," nor was there any anæsthesia.

In the cross-circulation experiments of Nov. 29th, 1892, the "feeder" was a large pariah dog, 24 lb. in weight; the "fed" a smaller one, 19 lb. in weight. Cross circulation was established at 1.15 P.M. Both subclavians on each side of the vertebral, both vertebrals, both common carotid arteries, and both internal jugular and subclavian veins of the "fed" were ligatured. The left common carotid artery of the "feeder" was ligatured. Cross circulation was established from the right common carotid of the "feeder" to the left common carotid of the "fed," and from the right and left external jugular veins of the "fed" to the right external jugular vein of the "feeder." Chloroform was administered to the "feeder" by injection through a cannula tied into the left external jugular vein, to the "fed" by artificial respiration.

TRACINGS OF EXPERIMENTS ON NOV. 29TH, 1892.



Observations.

H.	M.	S.	
1	20	0	Injection of thirty-five minims of chloroform into the right external jugular vein of the "feeder" completed.
1	26	5	Blood pressure falling in "fed."
1	28	30	Cornea insensitive in "feeder."
1	26	45	Cornea insensitive in "fed."
1	27	15	Respiration stopped in "feeder."
1	27	20	Respiration stopped in "fed."
1	30	30	Respiration recommenced spontaneously in "feeder."
1	30	45	Artificial respiration in "fed."
1	32	20	Artificial respiration by bellows in "fed."
1	32	45	Natural breathing in "fed." Artificial respiration stopped.
1	34	10	Chloroform to "fed" by artificial respiration.
1	40	0	Cornea sensitive in "fed."
1	41	0	Cornea still sensitive in "fed." Artificial respiration stopped. Natural breathing; cornea sensitive.
1	42	20	Cross circulation failing.
1	54	0	Carotid artery opened in "fed"—it bled to death.

Red fat was injected into the aorta of the "feeder" post mortem, and all the brain arteries of the "fed" were found on dissection to be completely filled with the injection. (We use liquefied fat coloured with vermilion to inject bodies for the dissecting room; the same injection was used here.)

It is clear from our experiments that chloroform has no action on the heart, and that narcosis of the vaso-motor centre, which causes the dilatation of the small arteries, by which the fall of blood pressure is brought about, is one of the earliest, if not the very earliest, of its effects. That this is a safeguard to the heart there can be no manner of doubt, as it materially lessens its work by facilitating the passage of the blood from the arterial to the venous system. From the commencement to the end of chloroform administration, therefore, whether the anæsthetic is given in medicinal or in poisonous doses, the heart is safeguarded, and, unless its nutrition is endangered by interference with the respiration, the heart is literally and truly the chloroformist's best friend, and may safely be left to look after itself.

The Hyderabad Commission's work proves that, while Syme's principles are right, there is no such thing as a safe method of chloroform administration. It is no longer a question of the superiority of the London method or of the Edinburgh method; absolute safety can be attained neither by watching the respiration nor the pulse for signs of danger—which are in either case proof of improper administration or of overdosing. Moreover, overdosing may take place whether the anæsthetic is given on lint or on a towel, or on a cap such as we use, or with Junker's or Skinner's, or any other form of apparatus. The all-important point is that the breathing shall never be interfered with in any way. Safety under chloroform can unquestionably be ensured, but it can only be so by attending to regular natural breathing; and, whatever method is employed, no one can deny that it is the bounden duty of the chloroformist to maintain natural breathing throughout the whole period of administration. To maintain natural breathing requires careful training and considerable experience, but if these conditions be fulfilled it is impossible to produce anything with chloroform but anæsthesia; and the Hyderabad Commission has shown that anæsthesia alone is entirely free from risk.

Hyderabad, Deccan, India.

THE ANTI-OPIUM CIRCULAR.

BY F. J. MOUAT, M.D.EDIN., F.R.C.S.ENG.,
LATE LOCAL GOVERNMENT INSPECTOR.

I HAVE read very carefully Dr. Maxwell's defence of the Anti-opium Circular and his denunciation of my review of it. I find in it a complete absence of any proof of the incorrectness of my contentions regarding it. He harps upon the old string of the assumed injurious relations of the opium cultivation of India to the people of China, which I purposely excluded from my review, confining my contention to India, to which the circular professed to be limited. Vague assertions of singular audacity and incorrectness I refused originally, and still decline, to accept as evidences of the supposed disastrous effects of the moderate use of opium upon the people of India, of whom the majority of the authors of the circular had no personal knowledge. Those, as tested effects, I contend, have no existence in fact, and justified me in excluding the missionaries from China from all claim to be treated and regarded as authorities on the subject of its relations to India. I regard all sweeping, unsupported statements as bound to be accepted with reserve in cases where passion is strongly excited, regarding which, in matters of historical evidence, the most eminent of our historians has recently said, "There will always be unconscious lying," which is mischievous from the tenacity with which such statements fix themselves in the memory. He also says that "Truth is moderate and hesitating. Fiction strikes boldly and the point of its lance is barbed."

In one case only are any figures given in support of statements, but these require to be supplemented by the details which can alone test their accuracy. The exception is a report of a Dr. Valentine, who served at Jaipur, in Rajputana, for some years. This State is not under the direct control of the Government of India, which cannot rightly be held responsible for its morals, maladies or malefactions. Of the prisoners in the Central Gaol, from 800 to 900 in number, Dr. Valentine mentions that more than three-fourths used opium, one-half of them to excess, and one-half of the exceeders committed crimes of violence under the influence of opium. No statistician would for a moment accept such figures as exponents of facts, and even if they were shown by careful examination to be unimpeachable a State known to contain less than two millions of inhabitants under native rule could not afford the materials, either in its social or criminal relations, to determine so large a question from so small an induction.

Another more questionable authority is the author of the tale of the demoralisation of a whole village by a single opium cultivator, the absurdity of which statement is out-Heroded by his

asseveration that half the crimes of the opium districts—murders, rapes and affrays—have their origin in opium eating. This fiction—for it would not find acceptance as a fact by anyone connected or acquainted with the opium districts—is fortunately susceptible of actual and easy exposure from the judicial records of the one district of which he appears to have had a personal acquaintance, that of Gorackpore, and I will take care to procure the evidence, which probably exists in this country, but, if not, in India. It is absolutely incorrect as respects the Gya district, with its 130,000 cultivators and numerous towns and villages, of which I made mention in a previous communication, and is one of those injudicious utterances which would not aid a good cause, and would damage irretrievably one that is more than doubtful, as I hold this anti-opium agitation to be. The typical village was not produced, but I am treated, as an alternative, to a pleasant enlarged view of a Governor and Council who believed that the cultivation of opium in an untried place, would fail because it had proved injurious in another in the same province where it had been tried. I confess my inability to see the force or validity of such reasoning. The late Sir Cecil Beadon was again brought up in evidence, and of this a similarly erroneous view is taken. I was intimately associated with him in public and private life for many years, and was acquainted with his sentiments upon the opium question as a whole, of which I know of no one who had a more correct apprehension. His memory needs no defence for refusing to treat the fiscal relations of the Bengal Government to the opium revenue in any but a strictly financial sense, in which questions of morals and the political action of the supreme Governments at home and abroad could find no fitting place. The remarks of Dr. Maxwell on the China aspects of the question are altogether out of place in a discussion relating to India alone; yet they are throwing stones at the glass house in which he dwells, for it is well and widely known that, whatever may have been the case some years ago, no pressure whatever is at present brought by England to bear upon the Celestial Empire with respect to the opium traffic, as the Government of that country possesses the fullest powers by treaty to put a stop to that traffic, whenever it chooses to exercise them. The enormous extension of the cultivation of the poppy in China of late years is carried out, if not with the consent, at least with the connivance of the authorities, which appears to indicate that they have taken the matter into their own hands, and need no aid or interference from us in the regulation of their own affairs in their own way. They have nothing in the wide world to do with the effects of opium, good, bad or indifferent, on the people of British India.

As to the medical body in England having declared against the opium habit some thirty or forty years ago, the history of that period should be studied to understand why and in what circumstances it was done, as it affords, in my opinion, additional proof of the unfitness of that body to take part in any quasi-religious, sentimental or other agitation of a political or social character without some detriment to its character as a scientific association. I can, if necessary, easily substantiate this, but I think a reference to the recent anti-vivisection discussion, to the anti-vaccination and similar performances on the unlicensed stage, all sufficient to show how inexpedient it is for such a profession as ours, to be associated with any of the fads or fancies of the passing hour.

As to the Parthian dart, tipped with Sir Benjamin Brodie, fired at me by my courteous but incautious critic, it fails to reach me, because his statement was aimed by Sir Benjamin at the abuse and had no reference to the moderate use of opium, as those who knew him personally, which I did, were well aware of at the time. No condemnation of the abuse of any narcotic or stimulant, and most of all of that which is the most pernicious and prolific of evil amongst ourselves, can be objected to as a mere academic exercise; yet has the cause of temperance benefited or suffered most from the intemperance and extreme views of its advocates? Even as respects India, the strange blindness to the demerits of the worst of them all—gunjah—can only be explained by the want of acquaintance with the habits and customs of the country which they profess to honour by denouncing the evils of its Government, of which they have proved themselves to be thoroughly incompetent to judge. I have now obtained the figures of the absolute and comparative influence of the intoxicants in general use, in their relation to the lunacy of the Lower Provinces, with which I was intimately associated for so many years, during which I was the official visitor of all the lunatic asylums of that Presidency for thirteen of those years.

The following are the figures for the ten years from 1881 to 1890: Total admissions to the asylums, 2204; cases caused by gunjah, 641, or 29·1 per cent. for the whole period; cases caused by alcohol, 117, or 5 3 per cent. for the whole period; cases caused by opium, 8, or 0·36 per cent. for the whole period. These are not fanciful or fictitious figures or "falsehoods of magnificent audacity," but figures exponent of facts obtained from the records of institutions in which I know them to be well and carefully kept. The worst cases of the most violent forms of madness were from gunjah. The plant from which it is obtained is found in nearly every ditch in some districts, it needs no careful cultivation, and cannot therefore be subjected to the stringent supervision of the opium monopoly, which, instead of being a curse, is a blessing to the country. Should any check be put officially upon the consumption of opium in its present restrictions, this pernicious drug would certainly be one of the alternatives resorted to.

Since I last wrote on the subject I have obtained authentic information regarding the universal use of opium as a prophylactic and curative agent in the whole of the district watered by the Ganges Canal. Its importance as a febrifuge I have heard denied by one of the most active members of the Anti-opium League, a crucial example of the blind leading (which really signifies misleading) the blind. I am strongly of opinion that the persistent references to the past history of opium in its relations to China are as stale and unprofitable as they are out of date, and refer to an order of things which has so entirely passed away as to have no present practical value in the settlement of the question. We have now to deal with the *status quo*, and the sooner all the cobwebs which obscure the action so passionately advocated are swept away the sooner we shall arrive at some practicable solution of the matter. If the Chinese of their own free will prefer to purchase Indian opium they have every right to do so, and we have no right to object to it, nor can we admit as a reproach to the Government of India that they furnish in the open market what is so greatly in demand elsewhere. There is no coercion whatever in the matter, and we might as well quarrel with France, Spain, Germany, Portugal or Italy for supplying us with many intoxicating agents because some of our people abuse them, whilst a multitude of those amongst our best and healthiest use them largely and do not deem it to be immoral or degrading to do so. The utter nonsense talked and written on the subject gives some sanction to the classification of our people by John Bright and furnishes a sad addition to the history of the delusions which find favour with so many most estimable persons, where their feelings are perverted by untrustful representations. Dr. Maxwell is of opinion that I only dared to attack some portion of the circular which I have denounced; it may perhaps be satisfactory to him to possess my whole confession of faith on the subject, when he may possibly discover my reason for disregarding all arguments founded on mere assertions or calculations of the number of chests of opium sent to China &c. and which still compel me to consider the circular in the light I have represented so far as India is concerned. That there may be no further doubt as to my meaning and views I will follow the good example of Dr. Maxwell of formulating them.

They are as follows:—I maintain, and have not yet seen any authoritative proof of its inaccuracy, that the habitual use of opium in moderation in India is neither injurious, degrading nor immoral; that it has caused no general mental or physical deterioration of the races of any part of India in which it is in general use since the control of its cultivation and distribution has been undertaken by the Government of that portion of the country which is under its direct rule; that it is not a general incentive to crime or destroyer of reason; that it is a valuable febrifuge and prophylactic in the deltas of the great rivers and malarious districts generally; that any alternative which may, and indeed must follow its compulsory disuse or employment only as a medicine for the enforcement of which no trained agency at present exists would be a resort to much more harmful stimulants and narcotics than opium ever has been or can be; that the reasons for its proposed suppression, should such a proceeding be practicable, are unsound, visionary and calculated to cause much undeserved misery and suffering amongst the peaceable nationalities, and would be actively resisted by the more manly and warlike races of India, whose mental, moral and physical qualities are the best possible proofs of the absolute

inaccuracy of the anti-opium contention; that it shares with the many narcotics and stimulants in use in all civilised countries the characteristics of a poison when used in excess, but in a minor degree to most of them; that such excess is exceptional in India; that the revenue raised from its sale in British India as an excise is no more immoral or degrading than the revenue raised in Great Britain from the spirit licences and other means of taxation applied to alcohol in its various forms, or to tobacco, which is also in universal use; that the fiscal action of the Indian Government in restricting its use is a really humane and moral measure when contrasted with the spirit licences issued in Great Britain, and is itself in practice and intention a thoroughly moral proceeding; and that the persistent mixing up of China with India in the opium question in the present commercial and friendly relations of the two countries would justify much stronger language of reprobation than I care to employ; not from the moral cowardice which Dr. Maxwell attributes to me, but because the interests of commerce are not governed by the fads and fancies of enthusiasts, and the question is in process of solution by the means which regulate and govern all questions of international relations in their politico-economic bearings or their social aspects.

As Dr. Maxwell, after my annihilation, kindly left me in the congenial society of Sir Benjamin Brodie, to whom I was much indebted in early life, I feel bound to introduce him to a companion of rare merit in dealing with questions of evidence in history. The anti-opium agitation professes to be based on the *interests* of religion and humanity. In his admirable inaugural lecture as professor of History at Oxford the distinguished historian Froude referred to the still more celebrated philosopher of Chelsea the question of the *interests* which guided most human actions. "Interests," said the sage, "what have men to do with interests? There is a right way and a wrong way. That is all we need think about." In another portion of his discourse on the Crusades Professor Froude says: "More than once in the chequered experiences of mankind there have been epidemics of enthusiasm. Ideas have taken possession of enormous masses of people, calling themselves sacred, sweeping all before them for generations, and ending in the sands like African rivers." The ineffectual results awaken them from their delusion to find that their duties lie at home. "Generosity of intention," he continues, "cannot confute facts; and enterprises inspired by passion, and unguarded by wisdom, stand in history as monuments of folly."

Durham-villas, Kensington, W.

REPORT ON THE ABDOMINAL SECTIONS PERFORMED IN THE GYNÆCOLOGICAL WARDS OF ST. VINCENT'S HOSPITAL, DUBLIN.[1]

BY ALFRED J. SMITH, M.B. R.U.I., M.CH., M.A.O. &c.,

LATE ASSISTANT MASTER, ROTUNDA HOSPITAL; PROFESSOR OF MIDWIFERY AND DISEASES OF WOMEN IN THE CATHOLIC UNIVERSITY, DUBLIN; EXAMINER IN MIDWIFERY, ROYAL UNIVERSITY ETC.

THIS paper is a report on the abdominal sections performed by me in the gynæcological wards of St. Vincent's Hospital since my appointment as gynæcologist. It represents in reality the work of six months, as I was prevented by an attack of illness, and subsequently by the usual summer interim, during which the wards are closed, from devoting any longer time to the work of this department. I performed abdominal sections during the six months in seven cases as follows:—

TABLE OF ABDOMINAL SECTIONS.

Case.	Name.	Age.	Married or Single.	Date of operation.	Nature of tumour.	Peritoneum.		Stitches removed.	Union.	Result.
						Flushing.	Drainage.			
1	U. U.	46	Married.	April 6th, 1891.	Unilocular ovarian tumour.	Flushed.	Not drained.	April 14th.	Good.	Recovery.
2	M. McD.	50	Married.	May 19th, 1891.	Unilocular ovarian tumour.	Not flushed.	Not drained.	May 27th.	Good.	Recovery.
3	S. B.	22	Single.	Oct. 21st, 1891.	Dermoid cyst in right broad ligament.	Flushed.	Drained.	Some on Oct. 29th, 1891.	Good.	Recovery.
4	M. G.	24	Married.	Oct. 11th, 1892.	Hydrops follicularis of right ovary.	Not flushed.	Not drained.	Oct. 19th.	Good.	Recovery.
5	N. C.	39	Married.	Nov. 2nd, 1892.	Large dermoid cyst showing teeth.	Not flushed.	Drained.	Nov. 10th.	Good.	Recovery.
6	M. R.	20	Single.	Nov. 4th, 1892.	Multilocular ovarian tumour size of an eight months' pregnant uterus.	Flushed.	Drained.	Nov. 12th.	Good.	Recovery.
7	T. S.	45	Married.	Nov. 16th, 1892.	Parovariancyst.	Not flushed.	Not drained.	Nov. 24th.	Good.	Recovery.

REMARKS.—Case 1: Several fresh adhesions easily separated. Case 2: No complications. Case 3 (sent by Dr. Garry of Liverpool): The cyst was gaseous and adherent to the middle third of the rectum; it burst during removal. Case 4: No complication. Case 5 (sent by Mr. Kelly, Kyrecourt, Galway): No adhesion; the contents of the cyst spilled into the abdomen. Case 6: Both parietal and visceral layers of the peritoneum covered with villous growth; the contents were spilled and soiled peritoneum. Case 7 (sent by Mr. Cox, Dublin): Pedicle very long.

Abdominal sections were performed twice for the removal of large unilocular ovarian tumours, twice for the removal of dermoid cysts, once to remove a multilocular ovarian tumour, once to remove a parovarian cyst, and once for the removal of hydrops follicularis of the right ovary, making in all seven cases, with complete recovery. In no case did the temperature reach 100° F., and in but two cases (Cases 5 and 6) did it reach 99·6° F. All the patients were able to get up on the fifteenth day after the operation, with the exception of one patient (Case 3), who was not allowed to get up for six weeks. Most of the tumours have been shown at the Obstetrical Section of the Academy of Medicine in Ireland. Case 2 developed a small hernia in the abdominal incision (three inches in length) about the track of the second suture from the top. It was the size of a walnut, and first appeared about six weeks after the patient's return to the country. I ordered her to wear an abdominal belt. The hernia had not increased in size when she was last seen. The belt caused no discomfort. I have, however, recommended her to undergo an early operation for its radical cure.

Case 3 presented many points of interest. The patient, a young woman aged twenty-two, had enjoyed good health till within twelve months of admission, when one day, while lifting a gallon of water from a well, she was suddenly seized with pain in the lower part of the abdomen, of so intense a character that it was necessary to carry her to bed in a fainting condition. Inflammatory symptoms ensued, accompanied by rigors and a rise of temperature. The patient's condition was for a time critical, but a discharge of pus per rectum gave considerable relief, and it was hoped her condition would improve. There was pus at every motion of the bowels. This continued till within three months of admission, when the discharge suddenly ceased. With this cessation of the discharge hectic symptoms of a marked character set in and the patient's condition became pitiable. On admission she presented all the symptoms of chronic septic poisoning, even to the pronounced cholasma marks on the forehead and nose. The evening temperature was 103·5° F. On examination

[1] A paper read before the Obstetrical Section of the Royal Academy of Medicine in Ireland, Dec. 23rd, 1892.

under ether the uterus was found to be pushed over to the left side of the pelvis and was tolerably movable. An ill-defined elastic mass was felt to its right side, of so indefinite a character that at first I had considerable difficulty in arriving at a diagnosis. I thought it might be some curious intestinal displacement. This elastic mass when pushed up out of the pelvis gave a clear note on percussion. This added to my perplexity, but still I had no doubt of the existence of a tumour, as the impulse of the outside hand was conveyed to the inside fingers and *vice versâ*. I therefore determined to explore, and was kindly assisted by Mr. M'Ardle. On opening the abdomen a tumour presented, which was tympanitic on percussion. Having satisfied myself that it was not an intestine but a tumour in the right broad ligament, I tore with my finger nail through the layer of broad ligament until I reached the wall of the tumour. The tumour shelled out with great ease from its bed, except for a slight adhesion to the middle third of the rectum; no pedicle was found. Whilst enucleating an escape of fetid gas from the tumour took place—I thought I had opened into the rectum,—but after the most careful search I could find no fistula; as a precautionary measure I thoroughly disinfected the cavity in the broad ligament by swabbing it with cotton wadding soaked in weak corrosive sublimate solution (1 in 5000). I stitched the anterior layer of the broad ligament to the abdominal wall so as to cut off the peritoneum from any danger of infection; I then flushed with hot water, put in a Keith's drainage-tube and packed with iodoform gauze. I saw the case a few hours afterwards, and found the dressing was soaked to a considerable extent with a watery discharge. I left the drainage-tube in all night, and next morning I was astonished to find the entire dressing soaked with a strong-smelling fæcal discharge and I recognised that a fæcal fistula had formed. I need not enumerate the many dressings, the constant irrigations, the changing of the glass drainage-tube for one of rubber, but will merely remark that the treatment failed to benefit the patient. The odour was so offensive from constant eructation of gas that it was obviously retarding the patient's recovery. I therefore determined to drain and irrigate the patient's rectum. With this end in view I forcibly dilated the rectum, and introduced a glass drainage-tube, which was kept in position, thus allowing the rectum to be constantly irrigated. The immediate result was most gratifying; the offensive smell almost disappeared, the discharge through the fistula became greatly diminished and gradually became less and less, until it finally disappeared. The patient was dismissed on Dec. 22nd, 1891, a little over two months after the operation, with a small sinus, which has now completely healed. This case, I think, shows that fistulæ of the middle portion of the rectum will close by granulation, and that the secret of success lies in the proper management of the bowels. The rectum must be kept well drained, free from gas and well irrigated.

In Case 4 I operated by elevating the pelvis on Trendelenburg's table. The patient complained of great pelvic pain the evening after the operation, which continued all night, and called out for its relief. One-third of a grain of morphia was given hypodermically, but with only temporary benefit as the pains returned directly the morphia had lost its effect. The temperature and pulse remained normal. A discharge of blood from the uterus ensued and the pains disappeared. The discharge continued for two days, six diapers being required. I employed no treatment for this hæmorrhage, as I considered it to be due to the sudden change of pressure in the bloodvessels of the uterus brought about by the operation.

Case 6 was remarkable for the alarmingly high rate of the pulse, which was 120 per minute. This rate was maintained during the whole time of convalescence, and when the temperature rose on the third day to 99·6° F. I felt anxious; but the quiet, contented expression of the patient, however, reassured me, and I was glad to have an opportunity of verifying the dictum of Mr. Lawson Tait that the expression of the face of a patient is often of more importance in prognosis than either the temperature or the pulse.

Flushing the peritoneum with large quantities of hot water was only resorted to in three cases—it was not necessary in Cases 2, 4 and 7 as the peritoneum was not damaged or soiled in any way, and I should have considered its employment meddlesome and unnecessary. In Case 5, although the peritoneum was slightly soiled by the spilling of the contents of the dermoid cyst, I did not flush it, as my experience hitherto showed me that hot water seemed to have but little or no effect in dislodging the greasy sebaceous material found in dermoid cysts. I cleansed it as well as I could with cotton wadding moistened in a corrosive sublimate solution (1 in 5000). As a rule I avoid sponging, the excess of fluid after flushing being removed by aspiration. Drainage by Keith's glass tube was employed in Cases 3, 5 and 6. A strip of iodoform gauze was passed down the lumen of the tube to assist in draining by capillary attraction. In all cases where the drainage-tube was used I placed the patient in the permanent side position, the old position on the back being, to my mind, opposed to gravitation. The side position I found most satisfactory, as nothing could be aspirated from the drainage-tube when the dressing was changed, all discharge having come away. To prevent granulations growing into the apertures at the end of the tube I simply rotated the tube through half a circle each time the case was dressed. In Case 6 it was necessary to keep the drainage-tube in for three days, as the discharge was so free. This free discharge ceased after the bowels were moved. I closed the abdominal incisions by interrupted silk sutures, the peritoneum being included in each suture. The dressing employed was very simple: a powder of equal parts of iodoform and boracic acid was dusted over the wound; over this a small strip of oiled silk was placed, and then a layer of absorbent cotton with protective and gauze, all being held in position by strips of rubber plaster; over all was placed a flannel binder. The after-treatment consisted in giving hot water in teaspoonful doses as often as the patient required it for the first forty-eight hours, and then milk and weak tea. I avoid giving morphia unless absolutely necessary. For flatulence I find that twenty drops of the spirit of cajeput with twenty drops of aromatic spirit of ammonia in a little water are both safe and efficient. Purgatives should be given the third morning after the operation. I generally order five grains of calomel, but in one case in which I ordered mistura rosæ (the saline mixture of St. Vincent's Hospital) in a one-ounce dose I was satisfied with its quick action. When the bowels did not act I gave a turpentine enema. In Case 3, where the bowel was damaged, a purgative was not given until the eighth day. Except where drainage was employed the dressing was not removed until the eighth day; before removing the stitches I took the precaution of saturating their free ends with corrosive sublimate solution (1 in 1000). There was no irritation in the suture track in any case; all the incisions seemed to heal by first intention.

As regards the antiseptics, I superintended, assisted by the sister in charge of the ward, seeing to every detail myself. The silk was boiled for half an hour in ordinary Vartry water; it was then placed in glass spools and kept in a bath of corrosive sublimate solution (1 in 1000) until required for use. The blunt instruments were also boiled in Vartry water for one hour. I had given up the ordinary dry steriliser, as I considered it untrustworthy from the fact that bacteria and their spores, if exposed only to the influence of a dry heat, might only partly lose their power of development. The cutting instruments were disinfected by absolute alcohol. No doubt boiling instruments spoils them, but I prefer the loss of my instruments to the loss of my patient. The stages for rendering the hands aseptic are as follows:—(1) The finger nails should be trimmed and then scrubbed for three minutes with a nail brush in a lather of carbolic soap and hot water, (2) then rinsed in carbolic solution (1 in 100), and (3) bathed in corrosive sublimate solution (1 in 500) for one minute. If it be necessary to dry the hands a dry corrosive towel should be used. The patient receives a hot soap-and-water bath the night before the operation. Immediately before operating the abdomen is washed with ether and then sponged with a hot corrosive sublimate solution. All instruments are kept in hot carbolic solution (1 in 100). The sponges used during the operation are thoroughly disinfected by being soaked in a weak solution of sulphurous acid and are then repeatedly washed in carbolic acid solution (1 in 100). Dry corrosive sublimate towels are spread over the chest and thighs of the patient as a further protection against the danger of infection. The anæsthetic used is ether, and I must here acknowledge the thoroughly satisfactory way in which Mr. Marnell, the house physician of the hospital, administered it. It is to me a source of some regret that I have not a larger number of completed cases to bring before the profession, as from so small a number, even though uniformly successful, it is impossible to draw any conclusion or deduce any theory.

Lower Baggot-street, Dublin.

THE ETIOLOGY OF CHOLERA.

BY C. EGERTON FITZ-GERALD M.D. ST. AND.

THE discussion on the cause or causes of cholera and the great divergence of opinion existing thereon remind one forcibly of the celebrated discussion as to the colour of the chameleon, in which, as now, each observer saw and spoke from his individual experience. The question is, May they not all be right? Cholera, like influenza, will eventually be found to be a miasmatic disease, of which the hitherto undiscovered germ can be conveyed through the air, by water, excreta, infected bodies or clothing. What the special germ may be, we as yet know not; but that it multiplies with enormous rapidity under favourable conditions of heat, moisture and dirt there can be no doubt. Theoretically one would expect it to be some hardy microscopic spore, ever present in certain localities, and ready, under exceptional circumstances favourable to its growth and development, to be produced in enormous volumes, whether in impure air, polluted water, in sodden soil or infected bodies. We should thus expect it to follow occasionally the course of rivers, sometimes to descend in deadly clouds in one place, while it rose over others, as it was borne by varying air currents with apparent caprice. Each individual as he is attacked becomes a fresh nidus, a hotbed for disease germs, which seek and require only a suitable soil or cultivating medium for their propagation; but a suitable condition of the atmosphere exists only under certain exceptional circumstances. This accounts for the rapid spread of cholera amongst large masses, especially dirty masses of men. Each unit of infection acts on suitable media exactly as would a particle of yeast if introduced into a mass of fermentable fluid under the requisite conditions of temperature &c. This is the explanation of the fact that, although cholera may arise sporadically anywhere under favourable but exceptional circumstances, it is endemic only in India, where, presumably, those requisite conditions constantly prevail. That cholera does spread principally along the lines of human intercourse, that it may be conveyed by man, by water, by fomites, may be readily conceded without affecting the contention as to its miasmatic and aerial character and method of propagation. That cholera is caused by Koch's vibrio is to the last degree improbable and certainly unproven, although it may be admitted that the cholera bacillus is usually present in the dejecta; but, setting aside the many morphologically similar varieties of this bacillus already described as being ever present in the intestines, what does this prove? Simply that in cholera, as in so many other diseases ascribed to microbes, we have the media, the special soil, suitable to its growth and multiplication; just as we often find in some newly upturned earth the conditions favourable to the growth of the spores of the mushroom, or the seeds of the numerous weeds which so rapidly spring up and flourish. The universal germ theory, now so eagerly and enthusiastically accepted, is not more generally believed in than was the humoral theory or the dyscrasia of a former generation, yet who credits these now? And is it not possible that our successors may have to climb down from our present position in as rapid and undignified a manner as we have already done from the beliefs of the past? How, otherwise than by aerial and miasmatic infection, can we explain the abrupt termination of an outbreak of cholera on the supervention of frost, heavy rain, or a high wind? How account for the sudden simultaneous visitation, or the as sudden cessation, of cholera in two villages separated by many miles of intervening valley (as recorded by Surgeon-Colonel Hamilton), its sudden appearance in ships at sea, in places where the water-supply is beyond reproach and where its importation by human agency is to the last degree improbable? The miasmatic theory perfectly fits in with and explains Pettenkofer's "subsoil water" hypothesis, for it is just when the surface water has sunk below its ordinary level that the very conditions of moisture, heat and evaporation most suitable for the growth and propagation of miasmatic spores are present. Nor does this supposition clash with the fact that cholera is communicable by drinking-water when contaminated with cholera germs. Supposing that water to be of the right temperature and to contain fermentable matter, it will prove an excellent cultivating medium for the development of cholera germs, but should the temperature of the water fall below a certain point it will soon become innocuous. To my mind, all evidence tends to show that cholera is caused by some miasmatic germ which can be disseminated in a variety of ways, that the contagium is generally airborne, and that the comma bacillus has no etiological connexion with it, but flourishes only in the excreta because it there finds a congenial soil.

Folkestone.

ASCARIDES LUMBRICOIDES.

BY HENRY ALSTON, M.B., C.M.,
TRINIDAD MEDICAL SERVICE.

IT would appear from cases recorded in THE LANCET lately that two distinct opinions exist amongst medical men as to the injurious effects of ascarides in the intestines. Amongst some the belief prevails that worms may cause death by entering the air passages or other parts, and possibly by producing mechanical obstruction of the bowels or enteritis, but that death from reflex irritation does not occur. On the other hand, medical men are found who insist on the importance of the reflex irritation alleged to be set up in the bowels by the worms; and the West Indies are stated to be the region where cases of this irritation are most frequent.

Some practitioners assert that the worms constitute the primary cause, any debility or blood deterioration being the consequence; while others maintain that the presence of the worms is but an indication of the lowering of the vitality of the mucous membrane of the stomach and bowels, as occurs in mal-nutrition and certain blood diseases, and the ascarides are simply a complication. This latter view is supported by the germ theory of constitutional diseases, which assumes not only the presence of the germs but the preparation of the host to receive it. Although the possibility of worms passing into the air passages and causing death is admitted, it is necessary to remember that worms crawl out of the stomach after the death of the host. It is also necessary to recall the fact that intussusception and volvulus may be ante-mortem phenomena.

It will be interesting to put aside the question of marked pathological changes found associated with worms and let the thesis be "death from reflex irritation of ascarides." By reflex irritation is meant, I presume, death not from a single cause but from collapse or from convulsions and coma. The difficulties surrounding a belief in reflex irritation are as follows:—1. The intestinal mucous membrane is liable to the irritation of scybala and all sorts of foreign bodies swallowed by children and others accidentally. 2. When strong purgatives are given to children considerable congestion and irritation of the bowels are set up, and yet death from reflex action is not recorded. 3. Diarrhœa ought to be a marked symptom of worms, and yet constipation is often found. 4. Opinions differ as to the number of worms required to produce the irritation. Will six worms do it? or does it require forty or more? 5. In intussusception affecting children great congestion and irritation occur, yet reflex convulsions and coma are not recorded as characteristic signs. 6. In malarious districts there is a form of malarial fever, called in the text-books "pernicious intermittent," that can cause death in a few hours. Convulsions in the case of children take the place of the cold stage, and the marked collapse, with cold extremities, makes the relatives believe that the child has no fever. There are also other well-known causes of convulsions in children, as anæmia with cerebral effusion &c. In order to establish clearly at a post-mortem examination that death was due to reflex irritation from worms, the following points must be kept in view:—(*a*) An examination of the brain is necessary; (*b*) cerebral congestion must be found with no indication of anæmia and enlarged spleen (for then the effusion is easily accounted for); (*c*) the history must exclude the possibility of a sharp attack of fever followed by collapse; (*d*) as cases occur when, on making a post-mortem examination, no clear indication of the cause of death is found (not even worms), an allowance must be made for such "unknown causes." Although I am not prepared to attribute to worms the *rôle* of producing death by reflex irritation, and I consider that it is rare for them to cause death in other ways, I nevertheless believe that it is not only imperative to expel them from the bowels, but that to do it establishes confidence

in the physician and gives such satisfaction to an adult patient that unconscious suggestion comes into play and assists recovery. The high death-rate among children in the West Indies is alarming, and is no doubt due to the neglect of the numerous illegitimate children and of some legitimate ones among the lower classes. If the presence of worms in a child is considered a full and perfect explanation of its death, then mal-nutrition, exposure and physical torture will be difficult to detect; parental neglect will go unpunished, and infantile mortality will continue to be excessive and alarming.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

A CASE OF TETANUS NEONATORUM.

BY HASTINGS GILFORD, F.R.C.S.

[THE following notes are taken from a description of a case read before the Berkshire Pathological Society. We publish the carefully noted clinical history as an example of a class of cases requiring careful observation and minute record. The case ended fatally.—ED. L.]

On June 1st of last year I was called at 6 P.M. to attend an infant four days old, which had been in a fit for two hours. On my arrival the child was in the following condition. During the spasms the whole body became rigid almost simultaneously, but on being carefully watched it was noticed that the contractions in some of the fits apparently started in the face, but spread over the body so rapidly that it was difficult to be certain of this point. The face was puckered into a grimace, deep transverse and vertical lines appeared on the forehead, the eyelids became tightly closed and deep furrows ran from the alæ of the nose to the angles of the mouth, while the mouth was sometimes pursed up almost into a whistling form and at other times remained more widely open. Occasionally a species of risus sardonicus appeared. The jaw was rigidly closed; the sterno-mastoids stood out boldly, and the muscles of the back of the neck, of the back, and of the abdomen were all firmly contracted. The arms were held down by the side, while the forearms, the thighs and the legs were flexed at right angles. The feet were in the position of equino-varus, the hands were in a line with the forearms, and the fingers were clenched. There was slight retraction of the head, but no opisthotonos. During the spasms the infant retained this position in whatever way it was held, whether it was lifted up by placing the hand under the back or even by one of its hands. The muscles were not at their highest tension, for, even when the spasm was at its worst, if any particular muscle were touched it immediately started out from its fellows; they showed extreme sensitiveness to stimulation, for if a muscle were but blown upon by the breath it immediately contracted and brought on a general convulsion. During the contractions it seemed hardly possible to alter the position of a limb without breaking a bone. The duration of the spasms varied from fifteen to thirty seconds and, at that time, returned at intervals of from ten to twenty seconds. During their occurrence the baby uttered a frequent and peculiar low and suppressed cry, which did not however convey the impression of pain, nor did it cry during the intervals between the contractions, but ceased immediately and composed itself to sleep as if tired with its struggles. The skin was of a sallow tint, but during the fits it became dusky purple in colour. The respirations were 80 per minute and very shallow. The intercostal muscles could be seen to contract irregularly at intervals which were far more frequent than those of respiration. There was no evidence of spasm of the diaphragm, but this may have been due to the prevention of abdominal movement by the rigid condition of the muscles. The very imperfect respirations appeared to be brought about by occasional, more uniform and longer contractions of the intercostal muscles, aided by stronger contractions of the accessory muscles of respiration. The respirations in the pauses between the spasms were 136 per minute and shallow. The heart sounds were normal in character and the pulse beats were probably almost 200 per minute and regular, but slowed down to 120 during the fits. The power of suction seemed gone, for the mother, before I came, had repeatedly tried to get the child to take either the bottle or the breast, but without success, though milk given by me with a spoon was swallowed after being held in the mouth a few seconds, the face becoming livid in the process. On attempting to introduce medicine per rectum it was immediately shot out to a distance of five or six inches, but a thermometer was retained in the same place without giving rise to continuous spasm. The temperature was 101°; the tongue was clean; there was no thrush nor vomiting. The bowels had been opened three or four times a day until the 30th, when they acted twice. Half a teaspoonful of castor oil had been given in the evening and was subsequently repeated, acting twice during the night and once in the morning. The motions were of a healthy, bright yellow colour, and contained a few small curds. The pupils were normal both in size and reaction and were not affected by the spasms. The left eye looked upwards and outwards during the rests and returned to the usual position during a fit, but owing to the great difficulty in overcoming the spasm of the eyelids only one observation was made of the condition of the eyes. The urine was apparently normal in colour and was passed freely into the diapers. The umbilicus was still raw over the greater part of its surface, but the sore looked healthy and there was no pus or offensive smell.

King's-road, Reading.

SUSCEPTIBILITY OF A PATIENT TO A SMALL DOSE OF ARSENIC.

BY B. H. NICHOLSON, M.B., C.M. EDIN.,
LATE RESIDENT SURGEON, ESSEX AND COLCHESTER HOSPITAL.

I WAS lately consulted by a patient who had been troubled for some time by successive attacks of furunculosis on the neck, and he presented himself to me, a fresh attack being imminent, for the papules had reached the size of a split pea, with surrounding induration and redness. I ordered him three minims of arsenical liquor three times a day, to be taken immediately after food, and well diluted. On visiting him two days later, I found that the furuncles had completely disappeared and aborted, but in their stead he had a universal erythema, least marked on the face and hands; the chest and abdomen had quite a boiled lobster appearance which itched very much and had caused him a restless night; he had also a slight attack of diarrhœa and some suffusion of the conjunctivæ, but no furred tongue or other sign of arsenical poisoning. The temperature was normal. On inquiry I found he had taken only five doses of the mixture prescribed, fifteen minims in all. He told me that ten years previously he had suffered from an attack of eczema, which was caused by working with arsenic, and that he generally suffered yearly in the autumn from a slight attack. The rash disappeared when the arsenic was discontinued.

East Hill, Colchester.

RUPTURE OF THE PATELLAR ATTACHMENT OF THE LEFT QUADRICEPS EXTENSOR CRURIS.

BY J. B. BAWDEN, M.D. EDIN.

RUPTURE of the muscular attachment above the patella is a rare form of a common disablement. The rupture usually takes place through the patella, more rarely through the ligamentum patellæ, the muscles being seldom torn from the upper margin of the patella.

A tea-blender aged sixty-nine slipped on the ice on the evening of Dec. 30th, 1890, when returning from business. He fell backward with his leg under him. He was unable to rise, but did not complain of pain. He was unable to straighten his leg. After he had been taken home I was called in to see him. On examining his left knee I found the patella and its ligament hanging loose under the integuments. The extensor muscles were retracted, leaving a space of about three inches between the upper edge of the patella and the sharp lower end of the ruptured muscular attachment. I treated the accident by extending the limb to its utmost, then pulling the skin downward over the knee, at the same time pressing the patella upwards as far as

possible and then strapping it into position with strips of plaster. Next, the ruptured muscles were treated in the same manner and the parts brought as near as possible together. Then the limb was flexed sufficiently to be comfortable, fixed on a back splint and swung from a cradle. When this was completed the space between the bone and the torn muscles was about half an inch. This apparatus was kept in position for three weeks, when I restrapped the joint, still finding the parts in good position. This strapping was allowed to remain a fortnight, when I dispensed with the splints and put the joint up in plaster-of-Paris. This was left on for a month and then I ordered him a leather knee-cap, which he has worn since. The loss in length of tendon is three-quarters of an inch. The patient has retired from business and is able to take long walks of eight or ten miles a day, with just the slighest halt in his gait. He is able to walk without his knee-cap, but does not feel quite safe. The predisposing cause of this accident seems to have been excessive use of the muscles of the thigh for pushing in the drawers in connexion with his occupation, causing hypertrophy of the muscles and bones of the knee and, later, degeneration of the muscles. The left knee was one inch more in circumference than its fellow. This is the only instance in which I have seen this particular form of occupation deformity, and I consider the accident worth recording on account of its rarity.

West End, Hampstead, N.W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

MIDDLESEX HOSPITAL.

CASE OF DIFFUSE, RADICULAR LYMPHANGIECTASIS AND LYMPHOMA AFTER A LYMPHATIC ABSCESS, THE SEQUEL OF VARIOLA.

(Under the care of Mr. HULKE.)

THE circumstance last mentioned in the report, coupled with a resemblance found between the little tegumental bodies from which the discharge issued and some of the small cutaneous nodules occurring in lymph scrotum, endemic in certain Oriental countries, appeared to Mr. Hulke to justify the inference that the little bodies on the upper part of the thigh in the present case were also connected with the lymphatic system. He did not suggest their absolute identity and pointed out that in lymph scrotum some of the nodules are formed by varices of the larger lymph vessels, whereas in this case some of the little tegumental bodies appeared, at least in their earlier stages, to be small masses of lymphoid tissue. The associated diffuse swelling of the thigh appeared to find a natural explanation in the supposition that it was due to increased formation of lymphatic tissue, a diffuse lymphoma combined with dilatation of the lymphatic radicles, and perhaps at the seat of the former abscess, with extasia of some of the larger lymph vessels—an idea which found some support in the elongated forms of some of the *quasi*-fat pellets in this situation. This abscess seemed to constitute the starting-point of the disorder. The appearance of the scar left by it clearly disproved the abscess having been periosteal or osteal; it formed as the patient was recovering from variola, and its occurrence as a sequel of the suppurative phase of a widely diffused dermatitis is strongly suggestive that it was a lymphatic abscess. Should this be conceded he considered that we are yet without a satisfactory explanation why in this instance damage, perhaps amounting to destruction of one or more lymphatic glands and of the lymphatic tracts connected with them, should have given rise to such widespread peripheral disorder in the lymphatic system of the limb. It must be conceded that the great infrequency of such disorder, as the result of destructive lymphadenitis, offers strong ground to doubt in the present case the notion of a direct causal relation between the abscess and the disorders in the limb which followed it. He pointed out an analogy, which would not, however, be thought, bear being pressed too closely, was offered in each division of the *blood*-vascular system. Usually (the largest vessels in each excepted) a localised injury of an artery or vein produces very limited effects; but exceptionally a very limited injury to a minor artery may originate a process occasioning a cirsoid condition, ultimately involving a considerable segment of the arterial system, and occasionally a similar process, starting as the effect of injury of a veinlet, may be seen to overrun the whole venous system of a limb. In connexion with treatment, it was instructive to observe the progressive decrease in number and size and the complete disappearance of most of the little lymphoid tegumental up-growths on the inner side of the thigh after a few weeks' rest in bed, with protection from chafing against the other thigh. Uniform, gentle compression of the thigh by a well-fitting elastic stocking was found to relieve the aching which had previously been occasioned by standing and by work. This palliative measure appeared to be all that the condition permitted.

A well-grown, healthy-looking brunette, aged eighteen, her face slightly marked by variola, in domestic service, was received into the Bird Ward on Nov. 24th, 1892, for a supposed tumour with pain in the thigh. No distinct tumour was, however, present, but the entire right thigh, particularly its upper half, was obviously enlarged. Its girth at the distance of four finger-breadths above the patella was found to be 42·5 centimetres, and at the distance of 15 centimetres below the anterior superior iliac spine—where the thigh was stoutest—the girth was 53 centimetres. The corresponding girths of the other thigh were 39 and 49 centimetres respectively. The swelling was greatest in the upper part of the adductor region, where it was very conspicuous when the strongly abducted thigh rested on its outer side upon the bed. Over this prominent part the skin was beset with numerous little eminences of very peculiar appearance. Some were broadly sessile, and the size of most of these ranged from that of a pin's head to that of a No. 6 shot; but a few were larger, attaining a diameter of five millimetres, and these were minutely nodular, a configuration suggestive of their formation by aggregation and blending of several of the smaller eminences. All these little nodules had a slightly translucent aspect; to the touch they seemed solid, but when pricked there exuded from them a small drop of colourless liquid. Scattered amongst these and about as numerous were other bodies, flaccid and shrivelled, projecting more from the general surface, having a length of from three to five millimetres and a basal diameter of from one to two millimetres. At the free end of a few of these a minute stigma was just discernible with the unaided eye, and still better seen with a pocket magnifier; this seemed to mark the spot where a rupture had occurred. The circumstance of the association of the two kinds of little bodies and the appearance of those last described were taken to indicate that the latter represented a later phase of the former. The lymphatic glands in both groins were slightly increased in size, those in the right groin being somewhat the larger, but in other respects they did not seem abnormal. The manifest enlargement of the thigh appeared to be due to the presence of a larger quantity of subcutaneous tissue. This, when an attempt was made to pinch it up with a fold of skin, felt less supple and less elastic than that of the left limb. This was certainly not occasioned by œdema, for of such there was not a trace, but seemed to be referable to the larger quantity of tissue. In the upper part of the adductor region was just discernible a faint scar, which the girl said marked the seat of an abscess, and beneath and around this the pellets of subcutaneous fat were somewhat coarser than elsewhere, and they were also less mobile on one another.

The account the patient gave of the affection of her thigh was remarkable, and in respect of a very characteristic sign it was quite spontaneous. She said that, with the single exception of an attack of small-pox when she was nine years old, she had not had any illness—and her appearance conformed with her statement of excellent health. She had not been vaccinated, her parents objecting. She had small-pox in her ninth year, and when she was recovering from the attack a large abscess formed in the upper part of her right thigh; it burst and in a short time closed. Soon after this occurrence her thigh began to swell. The swelling became larger when she stood much and when she worked; and it decreased when she rested in bed. Working and standing made her thigh ache, but when resting in bed the

thigh was quite easy. About two years before the date of her coming to the hospital the little bodies above described first appeared; they troubled her much by "milking"—they burst and a discharge like watered milk oozed from them and wetted her dress.

CHILDREN'S INFIRMARY, LIVERPOOL.

CASE OF SCARLET FEVER WITH PURPURA.

(Under the care of Mr. R. W. MURRAY.)

WITH regard to the following case Mr. G. E. Clemons, senior house surgeon (to whom we are also indebted for the notes), writes:—Beyond a passing reference in Fagge nothing is said in the ordinary English text-books on the subject of purpura after scarlet fever. Eustace Smith, Ashby and Wright, Collie and others are silent on the subject. Henoch,[1] however, mentions the manifestation of a hæmorrhagic diathesis as a sequela of scarlet fever, but of eight cases all began in the third or fourth week after the eruption and all terminated favourably. In discussing the etiology of purpura fulminans,[2] he also states that a fatal case of this occurred one week and a half after a slight attack of scarlet fever. Dr. Collie, in THE LANCET[3] and in the "Archives of Pediatrics,"[4] reports a case of purpura fulminans three weeks after an attack of scarlet fever. Unfortunately, in this case of J. O——, it was not possible to trace distinctly the source of infection. There had been no scarlet fever in the ward for some time previously; there was none at his home or in the neighbouring houses. There was, however, an epidemic of small-pox at Warrington which is only a short distance from, and in constant communication with, Ditton, the town in which he lived. This together with the symptoms, and in the light of Dr. Gee's statement, naturally made one suspect hæmorrhagic small-pox. Dr. Gee[5] says: "Scarlatina hæmorrhagica is so rare that the occurrence of a passive hæmorrhage from several mucous membranes at once might make one with justice suspend the diagnosis of scarlet fever until the notion of possibly having to do with variolous roseola was discarded. I have known variola hæmorrhagica to be mistaken for scarlatina hæmorrhagica and the truth not to appear until, in the course of time, those who had dealings with the case were themselves attacked with small-pox." That variola hæmorrhagica, however, was rightly discarded would, I think, appear from the following facts: (1) There never was any true small-pox eruption, the child's illness lasting for thirteen days; (2) the rash was typically that of scarlet fever; (3) desquamation commenced between the seventh and eighth days; (4) no person attending upon the child contracted small-pox.

J. O——, aged two years, was admitted into the infirmary on Oct. 10th, 1892, for the radical cure of an inguinal hernia. He was a fresh-coloured boy and apparently in good health, except for slight bronchitis. His family history was good. There was no history of hæmophilia, and he had had no serious previous illness. On account of the bronchitis the operation was deferred for some ten days. He had one or two occasional rises of temperature in the evening during that time, but for four days before the operation the temperature had been normal. He had eaten and slept well and the motions and urine were normal. On the morning of Oct. 20th the operation, which lasted some thirty minutes, was performed; it presented no special difficulty. The child had no after-sickness and suffered apparently little from shock. The following morning his temperature was 101°, but except for this feverishness he seemed fairly well. The temperature, however, kept elevated, and on the third day after the operation it was still higher (101·4° F.). He was restless and uneasy. The tongue was coated and furred; the tonsils and fauces were congested; the glands at the angle of the jaw were swollen and a diffused punctiform red rash appeared over the upper part of the chest, legs and back. The wound was dressed; it looked quite healthy and healing. He was transferred to the fever ward. On the 24th he vomited five times and had diarrhœa. The rash had spread and become much more pronounced. The temperature was 104·2°; the pulse beat and respiration were rapid; the urine was highly concentrated, scanty and albuminous. On the 29th the urine became intensely bloodstained and much blood was passed per rectum. This continued till his death, which occurred on Nov. 3rd.

During his illness he developed petechiæ generally over the body. There were subconjunctival hæmorrhages and bleeding from the gums, nose and stomach, and two large subcutaneous hæmorrhages, one in the right parotid region, the other into the site of the wound. He became very pale, the corpuscles scarcely being 2,000,000 per centimetre, and the proportion of red to white about normal. The urine contained red blood-corpuscles, leucocytes, and epithelial, blood and hyaline casts. Peeling of the skin commenced on the 30th. The first sound of the heart was replaced by a soft systolic murmur. He had a short, hacking cough and some consolidation towards the apex of the right lung. The retinæ were extremely pale, but no other change was noted on ophthalmoscopic examination. Before death he had a slight convulsion, chiefly left sided.

Necropsy.—The waxy pallor of the body generally contrasted with the hæmorrhages in the situations above described. The right lung was consolidated at the apex (hæmorrhage and pneumonia around it). There was some congestion at both bases. There were several petechiæ under the epicardium, but there was no endocarditis. Numerous hæmorrhages existed under the serous coating of the bowels. The stomach contained altered blood, and many points of hæmorrhage were visible beneath the mucous membrane. Several small ulcers were seen on the sites of older hæmorrhages. The kidneys to the naked eye before section appeared normal, the capsule being non-adherent; but on section the calyces on both sides were filled with blood; both the cortex and medulla were congested. The spleen was congested and there were many hæmorrhages in its substance. There was no hæmorrhage in the membranes, substance or cavities of the brain. Beyond the hæmorrhages into the substance of the organs and the congestion and cloudy swelling of the kidneys microscopic examination revealed nothing noteworthy.

[1] Diseases of Children, vol. ii., p. 231. [2] Vol. ii., p. 380.
[3] THE LANCET, March 21st, 1891. [4] July, 1891.
[5] Reynolds' System of Medicine, p. 165.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Melanotic Carcinoma of Skin.—Foreign Body in Hernial Sac.—Intra-auricular Cardiac Polypus.—Heart with Congenital Malformations.—Sarcomatous Growth in Œsophagus associated with Sarcomatous Growths in Bone.—New Growth in Descending Colon.—Carcinoma of Lung in a Cow.—Rupture of Heart.

AN ordinary meeting of this Society was held on Tuesday, Feb. 7th, Sir George M. Humphry, President, in the chair.

Mr. J. HUTCHINSON, jun., exhibited specimens from two cases of Melanotic Growths of the Skin, demonstrating their nature to be carcinoma and not sarcoma. In one case the tumour commenced in the thigh, in the other the heel. The cells of the malignant growth were arranged in alveolar form, and were distinctly derived from the rete mucosum. In one specimen cell-nests were fairly abundant, and were sometimes deeply pigmented. The cells were, as a rule, much smaller and possessed less distinct outlines than those usually met with in the down growths of skin epithelioma, and it is probable that many of the examples of supposed melanotic sarcoma are really carcinomatous. Sections at the edge of the tumour are necessary to decide the point. Probably melanotic sarcoma and cancer are equally malignant in causing deposits in the lymphatic glands. Allusion was made to the remarkable difference as to this in cases of melanosis, one case being quoted of melanotic sarcoma of the orbit, which, after incomplete removal, continued to discharge black material for six years. At the end of this time the patient was in good health without evidence of secondary deposit.—Dr. NORMAN MOORE considered Mr. Hutchinson's remarks as to the duration of symptoms important, and adduced two other cases in his own experience in which they had extended over a period of at least three years. He remarked upon the uncertainty as to the exact origin, in relation to the fœtal layers, of those cases which commenced in the eye.

Mr. J HUTCHINSON, jun., also showed the Sac of a Femoral Hernia, the neck of which was perforated by a strong fish-bone which had evidently passed through the intestinal wall and through Gimbernat's ligament. The fish-bone had irritated

the omentum in the sac and had thus given rise to symptoms resembling strangulation. No intestine was present in the sac. After removal of the foreign body (one end of which was fixed in Gimbernat's ligament) the sac and inflamed omentum were excised. The wound healed and the patient made good progress for a fortnight when an attack of diarrhœa seems to have disturbed the adhesions and led to peritonitis, of which the patient ultimately died. Attention was drawn to the extreme rarity of this complication of hernia.—Dr. ROLLESTON mentioned the fact that the late Mr. Shaw removed from a hernial sac a body which was thought to be either a gland or an appendix epiploica.

Dr. VOELCKER exhibited a case of Intra-cardiac Polypus. The patient was admitted under Dr. Fowler's care at the Middlesex Hospital in March, 1892. He was fifty-two years old and had enjoyed good health until the previous Christmas. At that time he thought he took cold and suffered from general œdema, and remained in bed until his admission, dying four days later. There was great cyanosis and œdema with general bronchitis; the heart's sounds were obscured, though a systolic murmur was detected at the apex, the rhythm suggesting the presence of mitral stenosis. Post mortem there was general venous engorgement. The right side of the heart was hypertrophied and dilated, containing twelve ounces of soft clot. There were no infarcts. The left side of the heart was also hypertrophied and dilated, and the mitral valve thickened. In the left auricle was a large gelatinous mass projecting from the septum at the site of the fenestra ovalis the shape and size of a champagne cork. The tumour fitted exactly into the mitral orifice. On section it exhibited no softening and no deposit of lime salts. The layers of fibrine were concentric on the surface, with many entangled cells. There was no endothelial covering and the deeper part exhibited many embryonic vessels. He also showed a recent case of small yellow sessile polypi within the auricular appendix of a patient who had died with spinal curvature and bronchitis.

Dr. ROLLESTON showed a Sarcomatous Growth in the Œsophagus with a fistulous track leading into the right lung. A soft vascular growth invaded the eighth, ninth and tenth ribs, the first and sixth being also affected. There were similar growths also in the right iliac bone and in the middle fossa of the skull. It was composed of medium-sized round cells and appeared to grow from the submucous tissue. There was an enlarged gland at the bifurcation of the trachea and also at the root of the right lung. The patient was fifty-four years old and had suffered from dysphagia for nine months, the swelling in the hypochondrium having only existed two months. The growth in the œsophagus was also harder than the others and appeared to be the primary one.

Dr. NORMAN MOORE exhibited a case of Columnar-celled Carcinoma affecting the descending colon, which had undergone extensive colloid degeneration but without occluding the intestine. He pointed out the tendency of the growth to invade a neighbouring organ, the absence of marked secondary deposits, the tendency to colloid degeneration and the duration of the disease, which was in this case six months.

Dr. NORMAN MOORE also brought forward for Dr. COLBY a case of Carcinoma affecting the Lung of a Cow, the disease being very prevalent in the neighbourhood of Malton. Mr. Shattock said that he was acquainted with at least three districts in which carcinoma appeared to be endemic. He mentioned one house in South Devon in which four cases occurred in as many families during a brief period. These neighbourhoods were affected by the overflow of rivers, and if the disease was due to a parasite it was probable that a part of its cycle was passed outside the body and that the earth or water became infected.

Mr. S. G. SHATTOCK exhibited a Soft Fibroma from the Synovial Sheath of the Little Finger. The growth, which was lobulated, cylindrical, five centimetres in length, lay beneath the palmar fascia and was confined to the hand. He had examined a similarly constructed tumour, which was shown to the Society in 1886 by Mr. Sydney Jones. He pointed out the importance of making a distinction between such soft fibromata and the myelomas, which were well known as arising in connexion with tendon sheaths. Under the term "tendon sheath" were included two distinct structures—viz., the dense fibrous sheath confining, say, the flexor tendons to the phalanges, and the synovial sheaths which were not coextensive with them and lay in the palm or sole. Now the fibroma arising in connexion with the synovial sheaths are of the ordinary kind, and this was the nature of most of the simple new growths arising in bursæ. The myeloma, whether a myeloid fibroma or a myeloid sarcoma, grew essentially from the fibrous sheath of the tendon. Such had been noticed, with references, by Mr. G. H. Makins, and M. Heurtaux had since recorded other cases and summarised our knowledge concerning such. It was difficult not to associate the presence of myeloid cells in such growths with the continuity of the tendon sheath and the bone, and to regard them as histological residues left during development, the complete differentiation of these structures not having been perfectly accomplished.

Dr. VOELCKER exhibited a Congenitally Malformed Heart from a girl aged seven years and a half, who had been an out-patient at the Hospital for Children, Great Ormond-street, since July, 1889, and died in January of this year. There were cyanosis and clubbing of the fingers with a systolic bruit heard over the right base, but not audible at the back. She took cold and died suddenly. Post mortem there was general venous congestion, with an infarct in one lung. The right auricle alone escaped enlargement; the septum ventriculorum was imperfect, the fenestra ovalis patent and the pulmonary orifice stenosed and calcareous. From the concavity of the aortic arch these vessels were given off to the lungs. The ductus arteriosus was closed. The condition was attributed to intra-uterine endocarditis.—Dr. NORMAN MOORE stated that the pulmonary artery was more frequently affected before, and the left side of the heart after, birth. He suggested that the early closure of the pulmonary artery interfered with the complete occlusion of the septum between the ventricles. In the case cited the undefended spot alone remained patent. In the majority of these he thought the foramen ovale was closed.—Dr. VOELCKER, in reply, said the lungs were intensely congested. They were not smaller than normal. He thought the stenosis of the pulmonary artery was not due to arrested development on account of its calibre beyond the obstruction, and also on account of the rigid condition of the stricture; in his experience the foramen ovale was always patent in these cases.

Dr. N. MOORE showed a Ruptured Heart as a card specimen.

Mr. BEADLES showed a specimen of Rupture of the Heart from a woman for many years an inmate of Colney Hatch Lunatic Asylum who was not known to have suffered from heart disease during life and had given no evidence of disease. She died suddenly one day and post mortem he found a rupture of the left ventricle in two places. He alluded to another case, that of a man aged fifty-four who lived apparently for 168 days after incomplete rupture. This was also a case of rupture of the left ventricle. He had two attacks of faintness previously. He had apparently recovered and got up, when the fatal termination took place. He thought that the heart was very seldom sound in lunatics.

OPHTHALMOLOGICAL SOCIETY.

Peculiar Foreign Bodies on the Cornea.—Simple Photophobia treated by the Continuous Current.—Persistent Pupillary Membrane.

AN ordinary meeting of the Society was held on Thursday, Jan. 26th, Henry Power, M.B., F.R.C.S., in the chair.

Mr. DOYNE made a brief communication on Peculiar Foreign Bodies on the Cornea, in which he drew attention to the peculiar flattened, firmly adherent particles not infrequently found on the surface of the cornea and which were usually thought to be small fragments of bark. He had been struck by their close resemblance to the scale insect well known to gardeners; this insect was limpet-shaped and had a sucker by which it adhered to the stalks of plants. Mr. Doyne showed specimens of the scale insect and asked members of the Society to examine cases they might meet with to obtain evidence confirmatory or otherwise of his suggestion that these foreign bodies might be groups of the scale insect.

Dr. JOHN HERN (Darlington) read a paper on Simple Photophobia treated by the Continuous Current. He referred to cases of photophobia without lesion discoverable by naked-eye or ophthalmoscopic examination. The patients were usually anæmic, of nervous temperament and in several instances were convalescing from a severe illness. They did not exhibit hysterical symptoms. He thought simple photophobia was due to retinal change, the exact nature of which was undetermined. The treatment he advocated was the applica-

tion of the continuous electric current applied in the way described by Dr. Buzzard.[1]—Dr. SYDNEY STEPHENSON inquired as to the condition of the fields of vision and of colour vision in these cases.—Dr. ORMEROD pointed out that nothing was known as to the direct influence of electricity upon hysterical cases, and suggested to Dr. Hern that, with a view to ascertain whether or not the condition was hysterical, some cases should be treated in a precisely similar way, but without actually applying any current.—Mr. JULER asked if fluorescin had been applied to determine whether any minute corneal lesion existed.—Dr. HERN, in reply, said that of thirteen cases ten exhibited perfectly normal fields of vision, whilst in three there was colour-blindness. Treatment by suggestion had been tried, but without effect. The fluorescin test had not been applied. Many of the cases occurred in rheumatic people.

Dr. SYDNEY STEPHENSON read a paper on Persistent Pupillary Membrane, and showed illustrations of the different varieties of that condition. He had found pupillary vestiges 68 times amongst 3,414 eyes. Dr. Stephenson's conclusions were as follows: (1) That, while capsulo-pupillary membrane was uncommon, threads of pupillary membrane were not infrequently met with; (2) that, when monocular, the survival was more prone to occur in the right than in the left eye; (3) that females were somewhat more likely than males to show vestiges of the membrane; (4) that members of the same family were often affected; (5) that absorption of the filaments did not appear to take place after birth; (6) that persistent pupillary membrane might be associated with other developmental defects of the eye.—Dr. ARGYLL ROBERTSON, referring to cases of Capsulo-pupillary Membrane, which were not common, mentioned a case recently under his observation in which the vision was seriously interfered with. In one eye the defect was bad enough to call for operative treatment, and by breaking up and extracting the lens good vision was obtained.—Mr. EALES (Birmingham) pointed out the want of elasticity displayed by the persistent pupillary filaments. With a dilated pupil they were tense, but with a contracted one they were often loose and wavy.—Dr. JAMES TAYLOR observed that the defect was often limited to one eye, as was frequently the case in congenital syphilis. He asked whether one eye was more liable to the condition than the other.—Dr. STEPHENSON, in reply, said the defect was more frequently met with in the right eye. There was no interference with sight or with the movements of the pupil. Only one case was of the capsulo-pupillary variety.

The following living and card specimens were shown:—

Mr. BEAUMONT: Congenital Ectopia Pupillæ (Bilateral).

Dr. STEPHENSON: A set of Professor Stroscheim's Drop Bottles.

Mr. HARTRIDGE: A Drawing of Leucocythæmic Retinitis.

Dr. JOHN HERN: A case of Epilepsy, in which cessation of the fits had followed correction of hypermetropia.

Dr. HARTLEY: Primary Glaucoma in the right eye, with advancing symptoms in the left.

Mr. DOYNE: Cyst of Lower Eyelid.

HUNTERIAN SOCIETY.

A MEETING was held on Wednesday, Jan. 11th, Mr. F. Gordon Brown, President, in the chair.

Electricity in Every-day Practice.

Mr. DENTON CARDEW read a paper on this subject and demonstrated the uses of the various forms of electricity in the treatment of diseased conditions. Electrical apparatus was exhibited and explained.

At the meeting held on Jan. 25th the following cases were considered.

Chronic Hypertrophic Inflammation of the Gums, with Leucocytosis.—Chronic Arsenical Poisoning.—Fibroid Disease of Lungs.

Dr. HINGSTON FOX showed a patient, aged twenty-four, suffering from Gingivitis of several months' standing. The gums were much swollen, entirely covering several of the teeth, spongy, often bleeding, and a little pus exuded on pressure. There was caries of several teeth. The white cells of the blood were greatly increased in proportion to the red, perhaps as much as one to eight of the red, and they were also large, unequal in size and some of oval shape. The spleen was slightly enlarged. There was no history of mercurial treatment, of imperfect diet, or of hæmophilia. The term pyorrhœa alveolaris (Rigg's disease?) had been applied to a condition of this kind.—Drs. F. J. SMITH and GLOVER LYON and Mr. F. R. HUMPHREYS discussed the case.

Dr. ARTHUR T. DAVIES exhibited a man aged forty-one who had been working for six weeks in a factory where white arsenic was used for making a poisonous paste. He complained of a painful, itchy rash on the face, back of neck and inner side of elbows and legs; also of conjunctivitis, nausea and gastric pain. The acute eczema had now left the face, but there was a reddish papular eruption on the other parts mentioned.

Dr. W. J. HADLEY showed two young men aged twenty-two and sixteen with Fibroid Contraction of the Left Lung. In each case the heart was displaced greatly to the left, and there were well-marked cavernous sounds at the angle of the scapula. There was no family history of phthisis, but in each case the symptoms dated from acute chest illness in childhood. The general health was fairly good and daily work could be performed.—Dr. GLOVER LYON showed a woman aged forty-two years with a similar contraction of the left lung, the heart being displaced in the same manner. She had never suffered much from cough, but was considered at sixteen years of age to have serious chest disease.—Dr. TURNER considered that these were cases in which damaged lung had been repaired, and not of existing and progressive disease. They were comparable to cases of cured hip-joint disease in which fibrous tissue had been deposited. There was of course liability to further attacks, but the condition was not fibroid phthisis, a slow progressive disease in which the lung was destroyed.—Dr. FORTESCUE FOX was inclined to consider all the cases as tuberculous. Much depended on the character of the sputum and the state of the other lung. In true fibroid lungs the sputum was infrequent, copious and fetid. Dr. Arnold Chaplin had shown a specimen lately from a case with a history of symptoms of twenty years' standing, but compatible with regular work. The apices of both lungs were infiltrated with fibroid tissue, there were ragged cavities and the bronchial glands were mainly changed to fibroid material. No bacilli could be found. The kidneys and liver also showed fibroid changes, and Dr. Chaplin regarded the disease as a constitutional one, of which the lung changes were only a local manifestation.—Dr. FRED. J. SMITH said that cases of repair of damaged lungs were very common, but typical cases of fibroid lungs such as those shown were rare. Much confusion had been introduced by non-uniformity in the use of terms. Fibrosis was sometimes pathological, sometimes merely traumatic or conservative. There was in such damaged lungs really a hyperplasia of scar tissue, a false keloid.—Mr. T. H. OPENSHAW adverted to the clubbing of fingers in the older patient, due, he thought, to long congestion of the finger ends from obstructed circulation through the lungs.—Dr. HADLEY, in reply, submitted that cases of fibroid disease of the lungs were comparatively common, that in two-thirds of the cases cough had originated in childhood from a pneumonia perhaps complicating measles or pertussis, that chronic bronchitis, pleurisy, inhalation of dust, or syphilis caused the disease later in life, and that it was a common accompaniment of tubercle. It differed from phthisis in the absence of wasting and hectic, the good slow pulse and general activity of body; moreover the bacillus was not found. The disease was distinctly progressive.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Exhibition of Specimens.—Abdominal Sections.

A MEETING of the Section of Obstetrics was held on Dec. 23rd, 1892, the President, Mr. Horne, in the chair.

Dr. SMYLY showed a specimen of Myoma about the size of an adult fist, partly calcified, which he had removed by abdominal section from the uterus of a patient in the Rotunda Hospital. Convalescence was delayed by a stitch abscess, but with this exception she returned home cured.

Dr. SMYLY also exhibited a Cancerous Uterus and Right Fallopian Tube which he removed from a patient, fifty-three years of age, in the Rotunda Hospital. The uterus was removed per vaginam, no difficulties being encountered until

[1] Transactions of the Ophthalmological Society, vol. ix., p. 191.

the cervix had been freed and the left broad ligament divided. It was then impossible to get the uterus out. The right tube was found to be enlarged and adherent, and an attempt to separate it caused violent hæmorrhage. Abdominal section was immediately performed and the broad ligament clamped and the uterus removed with part of the tube. The remainder of the tube, which—having been freed from its pelvic attachments by the division of the broad ligament—was still adherent to a coil of small intestine, was brought outside the abdomen and carefully separated. He would have resected this portion of gut had the patient's condition permitted a further prolongation of the operation. It was, however, returned into the abdomen, which was cleansed by a stream of hot water and drained per vaginam with iodoform gauze. The abdominal wound was closed and dressed in the ordinary way. She recovered without much shock and has so far made a good recovery.—The PRESIDENT said that in cases of cancer the difficulty of accurate diagnosis was as to the extent of the cancer.—Dr. SMYLY thought that whenever there was any doubt as to the extent of the cancer it was better not to operate.

Dr. A. J. SMITH next exhibited a Calcified Fibroid Tumour. The centre of the mass was quite soft, but the outside was almost completely calcified.—Dr. SMYLY remarked that the tumour which he had exhibited was calcified in a similar manner.

Dr. ALFRED SMITH read a report on Abdominal Sections performed by him in the gynæcological wards of St. Vincent's Hospital, Dublin, which we publish elsewhere.—Dr. ATTHILL hoped that this paper would give rise to some discussion, as there were several points of interest connected with it. He thought that the disinfection of the instruments in boiling water was one of the safest and best methods. He certainly had not ceased to believe in antiseptics. He thought the use of the calomel purge a very wholesome practice. When administered in doses of from 3 to 5 grains it gave the greatest satisfaction.—Dr. SMYLY said the points of special interest to him were the recurrence of hernia, the cleansing of the peritoneum, the dressing with boracic powder, and the boiling of the instruments. He (Dr. Smyly) came to the conclusion that the hernia was the result of suppuration. He did not begrudge the time expended in stitching the different layers if this prevented the hernia. He next referred to a case of dermoid tumour which, on tapping, unfortunately burst through the posterior part, and the matter escaped into the abdomen. He sponged it out as cleanly as he could, but he regretted that he did not use hot water, as the patient rapidly became worse. He thought that the dermoid matter would probably float on the top of the water. He thought drainage on the side a mistake, as the tube did not go to the most dependent places, and the fluid was down in the groin. The powder also seemed to him to be a mistake, because it kept the surfaces from coming into apposition and prevented union of the superficial parts of the skin, whereas if perfectly dry it would heal by first intention. With regard to the disinfection of the instruments, the method he adopted was to sterilise them at a heat of 300°, and before using them to boil the instruments for half an hour in a soda solution, which did not spoil them.—Dr. PARSONS asked as to the explanation of the pain in rectal fistula, as it presented all the signs of perforation. He asked if steaming had been applied to the disinfection of the instruments, as bacteriologists had found it most effective in destroying the spores of the anthrax bacillus.—Dr. ATTHILL wished to know how the steam was superior to boiling water.—Dr. PARSONS said it was practically shown in the case of anthrax bacillus. Feathers infected with anthrax bacillus were immersed in boiling water and others were steamed. When these were introduced into animals it was found that the animals contracted the anthrax when the feathers were boiled, whereas the animals escaped when the feathers were steamed.—Dr. GLENN desired to know whether, when the glass tube was retained for three days, there was any difficulty experienced in stitching the wound.—The PRESIDENT said a solution of 1 in 500 of perchloride of mercury was quite sufficient to guard against any septic matter.—Dr. A. J. SMITH, in reply to Dr. Atthill, said he looked upon the carbolic solution as the best aseptic he had at the time. Dr. Smyly found that the hernia was due to suppuration in the sutures, but in his case there was perfect union, and when he found patients coming back to him with these little herniæ in the incisions he (Dr. Smith) was quite astonished, especially as there was not even a trace of suppuration. He remembered a case where the contents of a dermoid cyst were spilled and the patient was douched, but she died. On turning up the intestines he found traces of the cysts even after washing out, and the result of washing was to put particles into quarters where one could not get at them. He cleansed them carefully with sponges and left in a drainage-tube, and the result was most satisfactory. By the aid of iodoform gauze he found that there was nothing left in the cavity and the fluid did not come down into the flank. The patient always lay against a bolster at the side, and probably this might prevent the fluid from coming down into the flank. He was more than glad to be informed of the efficacy of the soda solution for instruments. He thought steaming the latest fad and a very expensive one as well, and he never had any reason to regret the corrosive sublimate solution. In reply to Dr. Glenn, he said there was no difficulty whatever in union of the wounds.

SECTION OF MEDICINE.

Four Cases of Primary Glaucoma in the Young.—Syringomyelia.—Pin-swallowing.

A MEETING of the Section of Medicine was held on Dec. 16th, 1892, the President, Dr. Walter Smith, in the chair.

Dr. STOBY read a paper upon Four Cases of Primary Glaucoma in Young People. One case was that of a girl of thirteen, who developed acute glaucoma after a subconjunctival injection of cocaine, which was made preliminary to an operation for strabismus. This patient developed a precisely similar attack in the other eye from the same cause. Both attacks were rapidly cured by eserine. Dr. Story reported that he had measured the diameter of the cornea in thirty eyes suffering from primary glaucoma; and although he was inclined to hold by Mr. Priestley Smith's theory of glaucoma the result of these observations did not lend it much support.—The PRESIDENT said Dr. Story's first case was of interest on account of the youth of the patient and also of the etiology of the disease, which added another terror to the use of cocaine. The same local effect might be induced by atropine, but not in such a striking way. The mechanism of mydriasis was not yet explained, inasmuch as it varied with different drugs, and also because the movements of the iris were not thoroughly understood.—Dr. SWANZY said that the point which interested him most in Dr. Story's paper was that the measurements of the cornea in three of the cases were up to the normal average. He had seen a case of chronic simple glaucoma in a child of nine.—Dr. A. H. BENSON said that it would be interesting to know if in those cases of high tension in young people the whole globe of the eye was enlarged.

Dr. COLEMAN and Dr. O'CARROLL showed a case of Syringomyelia with the following symptoms:—Distinct atrophy of the clavículo-occipital portion of the right trapezius muscle; diffused trophic changes, accompanied by a solid œdema in the right hand and arm, and to a less degree in the left; spastic phenomena in the right leg; loss of tactile sensibility in most of the right upper limb and right side of trunk; loss of pain sensibility in the left hand, arm, and side of trunk; loss of muscular sense in the right arm, and of temperature sense in both upper limbs and over most of the trunk; finally tenderness on pressure in right inferior costal area.

Dr. KNOTT read a paper on Pin-swallowing, and exhibited a pin which had been passed per vias naturales, sixteen days after it was swallowed, by a child aged three years.

The President, Dr. J. W. Moore, Dr. Parsons, Dr. Potter, Dr. Burgess, Dr. Dawson and Dr. Knott joined in the ensuing discussion, and contributed their experience of like cases.

BARON DE HIRSCH has given £400 to the Royal National Hospital for Consumption at Ventnor.

JENNY LIND HOSPITAL FOR SICK CHILDREN, NORWICH.—At the annual meeting of this institution held on Jan. 28th it was stated that during the year 1892 1704 patients had received treatment at the institution. There were 178 operations performed during the year, with one death. The Mayor, who presided, in moving the adoption of the report, expressed his satisfaction with the excellent way in which the hospital was managed, and hoped the time was not far distant when a public appeal could be made for funds either for the reconstruction of the old hospital or for the building of a new one.

Reviews and Notices of Books.

The Diagnosis of Diseases of the Heart and Thoracic Aorta. By A. ERNEST SANSOM, M.D., F.R.C.P. Lond. London: Charles Griffin and Co. 1892.

IT is impossible to open such a book as this without an overwhelming sense of the wide extent of modern medical science, coupled with admiration for the amount of patient and painstaking clinical observation which must be required to have brought forth the work. Ever since the days of Harvey the derangements of the circulatory mechanism have exercised a degree of fascination for medical writers which it is not difficult to explain, whilst the clinical study of cardiac disease has been often treated by British physicians, amongst whom may be named Hope, Latham, Stokes, and Walshe (to mention only a few of those whose life-work is done). The insight given into the manifestations of cardiac lesions by the methods of physical diagnosis, and in particular by auscultation; the many points which arise for thought and discussion in the interpretation of such signs and the precise value to be attached to them; the further aid given by the study of the pulse, and the application of the sphygmograph and cardiograph: all these are elements towards the establishment of a sounder cardiac pathology than obtained when some of those great clinicians penned their memorable writings. At the same time the pursuit of these clinical methods has added so many new facts to the subject of the diagnosis of heart disease that any surprise at a work of the extent of Dr. Sansom's, of comparatively limited scope, is somewhat lessened.

To adequately review such a work would require an article of huge dimensions, for it is a book that can only be rightly analysed by discussing in turn the many points of interest with which it teems. Any comments that can be made within a limited space must necessarily be general and perhaps superficial. The subjects dealt with in the volume are arranged on a severely systematic plan, which has, however, the merit of inclusiveness; and it would be hard to detect any distinct faults of omission on the part of the author. If any exception were made at all by the reader it might rather be that there is too great a diffuseness in some subjects of comparatively minor importance and the unavoidable subdivision of certain topics. After a schema for the examination of cases of heart disease, the subject matter of the book is divided into three parts—viz.: (1) Rational Diagnosis; (2) Physical Diagnosis; and (3) The Sphygmograph and Cardiograph in Diagnosis. As regards the first of these, there are discussed the symptoms of præcordial pain and the conditions giving rise to it, angina pectoris, and the disorders of the various bodily functions arising in heart disease. Thus at the very outset the reader is introduced to matters of the highest practical importance, especially in the differentiation of the symptoms of pain and palpitation and irregularity of heart beat in their association or not with organic disease. The distinction between true and false angina pectoris is clearly drawn and explained; but a detailed discussion on the pathology of the former is deferred to a much later chapter, when the pulse characters of the condition are analysed. We may say at once that Dr. Sansom shows that increased arterial tension is only one factor in the production of the paroxysm, an additional element being the atheroma of the aorta, which in its turn, by leading to coronary obstruction, is often responsible for the fatal result. So far as we can gather from his exposition of this difficult subject, he contrasts the paroxysm of angina with that of epilepsy, the centric irritation being started from the diseased aorta or heart, or from exposure to cold, and producing the contraction of arterioles, rise in blood-pressure, and consequent obstruction to the work of the ventricle. The discussion of cardiac dyspnœa is full, but dealt with in two parts of the work, since it is both subjective and objective. In dealing with the latter chief attention is given to Cheyne-Stokes respiration—in which that phenomenon of disordered respiratory rhythm is compared with the rapid heart of Graves' disease—where the rhythmic cardiac nerve mechanism is disordered. Instances of temporary and even of complete disappearance of this type of dyspnœa are quoted, to show that it is not always an unfavourable prognostic sign. Under the heading "Previous History of the Patient" are discussed the various antecedents and influences connected with the production of heart disease, and the possibility that sudden emotion, as fright, may induce valvular disease from sudden over-strain is suggested as explanatory of the endocarditis of non-rheumatic chorea. If well founded, such a doctrine opens up a wide scope for the explanation of valvular disease unassociated with rheumatism, scarlet fever or other toxic influences. The chapters on "Inspection" deal not only with such signs as cyanosis, jaundice and anæmia, but sections on Graves' disease (or, as the author prefers to term it, "neuro-cardiac disease"), dropsy, and the signs of rheumatism and gout. Visible venous pulsation receives considerable attention, and the characters of the apex beat are fully discussed. The significance of systolic recession of the chest as indicative of adherent pericardium is wisely guarded by directing attention to the concomitant signs of that condition. Chapters are added on the ophthalmoscope and laryngoscope in the diagnosis of aortic disease and aneurysm (on p. 112, speaking of retinal embolism, the word "right" is used instead of "left"—a very venial error, more frequently committed in note-taking than any other!). The next section, on "Palpation," is subdivided into several chapters, which contain many useful hints upon the pulse. It is, however, in the departments of "Percussion" and "Auscultation" that Dr. Sansom is seen at his best, and we opine that these chapters will be those which will be most closely studied by practitioners; indeed they will repay the closest reading, for they not only abound in practical memoranda, but contain also many thoughtful and suggestive criticisms of current opinion. The cardiac outlines in the form of life-sized charts, which freely illustrate this part of the work, will also be most helpful. We must be content to refer to a few points only. "Doubling of the first sound," is, in the author's opinion, not due to asynchronism of the ventricular contractions, but to a sudden shock, making tense the auriculo-ventricular valve just before the ventricular and in the auricular-systolic period. "Doubling of the second sound," so common in mitral stenosis, is also believed not to be due to want of synchronism in the closure of the aortic and pulmonary valves, but to the fact that its second element is formed by the sudden tension of the mitral cusps occurring after the relaxation of the left ventricle. The mode of production and the topography of murmurs are discussed with fulness. There is an instructive series of diagrams to show the relative frequency of the various sites of bruits in anæmia. The apical bruit in this condition is referred to the mitral regurgitation from dilatation of the ventricle. As to the murmur heard over the pulmonary artery, Dr. Sansom rejects first one hypothesis and then another, and feels bound to conclude that it is really valvular, due to vibration of the pulmonic valves from the enfeeblement of the muscular fibres of the conus arteriosus, some of which proceed quite up to the orifice. We should like to devote further criticism to the chapters dealing with the murmurs in organic valvular disease, including a very ample discussion of mitral stenosis, in which the loud and abrupt first sound is attributed (no doubt correctly) to the sudden tension of the tricuspid valve curtains; but we must hasten to a close. Nor can we follow Dr. Sansom through the very

extended discussion he gives of the uses and indications of the sphygmograph and cardiograph. It represents a great deal of work; but the results of the application of these instruments need in so many cases to be weighed in comparison with the concomitant facts observed in the heart and vessels that they are really of subsidiary value in diagnosis, although of no small physiological interest. Nevertheless, many will be grateful for having their teachings so clearly expounded by a competent master. We can, then, warmly commend this book to all who are engaged in clinical work and who desire to have a trustworthy monitor in the investigation of the signs and symptoms of cardiac disease. It is a book which does credit to British scientific medicine, and its author deserves the thanks of practitioners, teachers and students for the labour he must have expended in its production, and for the admirable and instructive manner in which he has prepared it. We may add that the typography of the volume is excellent.

Twenty Years in Parliament. By W. MCCULLAGH TORRENS. London: Richard Bentley and Son. 1893.

THIS is a pleasant and amusing, and in many respects an instructive, volume for those who are interested in the political progress of some of the sanitary and social problems of the past twenty years of the Gladstone-Disraeli parliamentary history. The period included in Mr. McCullagh Torrens' twenty years dates from 1865 to 1885, but he had really represented Dundalk and Great Yarmouth in Parliament before that time, the former in 1847 and the latter place in 1857. In the session of 1868 he had the satisfaction of carrying the first Act for the improvement of artisans' and labourers' dwellings. Soon after Parliament met in 1866 Mr. Arthur Kinnaird and Mr. Locke had shared with him the responsibility of urging the Legislature to interpose for the eradication from our great towns of the dens of disease and degradation in which numbers of the working classes were doomed to wear out life. Lord Shaftesbury had some years before obtained an Act enabling the medical officer of health to report such places as unfit for human habitation, and authorising municipal authorities to take steps for their structural or other modification. The history is sketched of the erection of the number of edifices for different classes of disease under the direction of what was known as the Metropolitan Asylums Board. Mr. McCullagh Torrens appears to have interested himself in a number of social reforms and changes of a medico-political character which he claims to have initiated or promoted during his Parliamentary career. As to most of these we can look back with satisfaction at the prominent part taken in them by THE LANCET. He had been impressed, he tells us, with the growing evils of aggregation in our systems of medical relief, and had spared no pains to obtain from military and civil authorities, abroad and at home, testimony on the point. He took the opinion of the late Dr. Sutherland of the War Office and of Miss Florence Nightingale on the subject, and of various friends who had served in the Crimea, and he visited many of our large metropolitan hospitals; but he nevertheless failed to carry his amendment that a competent Commission should be appointed to investigate the matter and to ascertain whether medical and surgical relief might not be best administered without breaking up people's homes or branding them with pauperism. There are observations in this volume which are well worth reading, such as those on the Metropolitan Asylums Board; on the abuses of the indoor system of relief, grimly exposed and caricatured by Dickens (which, we may add, were also very fully discussed at the time in the pages of THE LANCET); on pauper children and the cherishing and strengthening of the family tie; on the adoption of the system of out-door relief in England, that had been so successfully tried in Ireland after the famine; on the systematic boarding out of pauper children, and on State aid to emigration. Those who are interested in our present system of recruiting for the army will turn to the author's remarks at page 125 *et seq.* The complaints that were rife then were much the same as those we hear of at the present time. The author has some very apposite and interesting remarks on the Mutiny Act and the degrading practice of corporal punishment which still lingered in the Army up to 1865, but which was abolished by the Gladstone Cabinet in the following session of Parliament. We need hardly remind the readers of THE LANCET that the late Mr. Wakley by his action, both in and out of Parliament, played the foremost part in bringing about the abolition of corporal punishment in the army. The volume is much enlivened, and the reader's attention is sustained, by the interesting and characteristic anecdotes which it contains about political and other notabilities of the time.

Egypt To-day: the First to the Third Khedive. By W. FRASER-RAE. London: Richard Bentley and Son. 1892.

NO country can cope with Egypt in depth and variety of interest. The student in nearly all the great departments of knowledge finds it rich in material for observation and research. At present, however, it is its political aspect that awakens the most widespread concern; for on its internal tranquillity and prosperity depends the power to continue and extend research and investigation as well as to enjoy those physical and meteorological advantages which have made it a winter resort for both hemispheres.

What the world would lose by the relapse of Egypt into the misgovernment that was its portion prior to June 26th, 1879, is conveyed with fulness of detail and force of style by Mr. Fraser-Rae. He gives a striking picture of the change wrought in every branch of its political and social life by the rule of the ex-Khedive under British inspiration and support, and enables us to understand how the interested apologists of an effete and corrupt bureaucracy chafe under exclusion from posts on which they battened at the country's expense. His testimony on this point is that of an experienced publicist well known in the sphere of journalism, and if it be urged that, as a subject of Queen Victoria, he is not unnaturally prejudiced in favour of British intervention and influence his testimony may be supplemented by that of an impartial outsider, whose knowledge and judgment no one will gainsay—Mr. Edwin H. Woodruff. In the *New York Nation* this writer says: "The reforms which England has wrought in Egypt during the past nine years are simply astounding. A looted treasury, a disorganised and almost hopelessly corrupt Administration, a rebellious and cowardly army, and a people crushed under unbearable taxation have, in this short space of time, and in the face of Oriental apathy and French obstruction, been metamorphosed into order, plenty and content. And yet there has been little romance in this restoration. It is chiefly a story of common sense, honesty and hard work." Continuity in the course thus auspiciously begun is now the one hope of Egypt, and if France presses for the evacuation of the country by its British reformers and rehabilitators we are entitled to ask what guarantee she could give of a better *régime* than that she seeks to replace, or whether her own financial and political record, at present *en évidence*, adds force to her claim that she could do the work better than "la perfide Albion."

Amongst the many factors in Egypt's national resurrection are an improved hygiene and the development of its advantages as a health resort. On this part of his subject Mr. Fraser-Rae speaks with more than merely lay authority. *En rapport* with the best medical opinion of Europe, he has made special study of the various balneological and climatic centres familiar to the physician, and the experience thus

acquired enables him to appreciate what Egypt has lately done and what it still has to do in extending and elaborating its resources. The chapters on "Cairo and its Suburbs" and on "An Oasis near the Capital" (the mineral springs of Helouan) may be recommended to practitioners for their precise and carefully checked information as to topics on which patients often ask for guidance. That the desert—that "blessing to the invalid"—can be entered at a short distance from Cairo is another step in advance due to British enterprise. The Mena Hotel, within a few yards of the Pyramids, owed its origin to an Englishman. Desirous of the "desert cure" for the phthisis under which he laboured, he in 1884 bought from the Egyptian Government 300 acres of sand on which a small house stood. There he and his wife took up their abode and his health began immediately to improve: "the worst symptoms disappeared and his lost strength returned." His example induced a compatriot to run the "desert house" as a sanatorium and hotel, and its success will probably be the precursor of similar establishments on a larger scale.

Mr. Fraser-Rae's account of the oasis of Helouan with its efficacious sulphurous and saline springs contains much that has not yet found its way into the guide-books lay and professional. The development it assumed under British control may be appreciated by a few of Mr. Fraser-Rae's statistics, as, for instance, the number of baths taken from 1881 onwards. In that year they amounted to 8000. In the year following, thanks to civil convulsions, they fell to 6000. In 1886, when British influence made itself felt in renewed confidence and financial prosperity, the numbers rose to 10,000 and in 1890 to 17,000. "Since then the increase has been continuous, while many of the dwellings have been built to house those who visit Helouan as patients and pleasure-seekers." The bather will find no appliance wanting that can be found in baths of a cognate kind, "of which those of Aix-la-Chapelle and Aix in Savoy are the best examples."

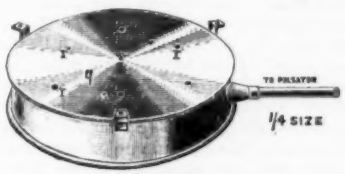
We have left ourselves no space to discuss the social and political aspects of the Egyptian situation as given by Mr. Fraser-Rae, but we have said enough to indicate to the reader the knowledge and judgment he has brought to the task and the material he has collected for a thorough appreciation of the subject.

New Invention.

THE ABSOLUTE FIRE ALARM.

ACCORDING to the last report of the chief officer of the Metropolitan Fire Brigade, recently issued, the destruction to property and the loss of life by fire in the metropolis are increasing to a very alarming extent year by year. The fires of 1892, for instance, compared with those of 1891, show an increase of 254, or, compared with the past ten years, a total increase of 855; the number of fires in the metropolis in which life has been seriously endangered during 1892 was 200, in fifty-two of which (that is, in every other case) actual loss of life occurred. Thus the lives of 169 persons were seriously endangered, 105 were saved and no less than sixty-four were lost. Many a disastrous fire might have been averted and many a valuable life saved, it will be believed, had only the danger been discovered at the outset. For reasons not very far to seek, fires nearly invariably occur at night time, and in only too many instances, as the above statistics unhappily show, persons sleeping on the premises are often not awakened until it is too late, when all ways of escape are attended with considerable risk, if indeed they are not totally cut off by the advancing flames. Instances of this kind are unfortunately the rule rather than the exception, and those who have given the subject any thought at all have felt the pressing need of a means by which the first outbreak of fire could be immediately made known and an alarm given. This is the aim and purpose of the "Absolute Fire Alarm" which has been designed, modified and improved by Messrs. Stockman and Doyle of 3, Poet's-corner, S.W. With the view of testing the efficiency of this new invention, it was recently fitted up, at our request, in two rooms of THE LANCET offices. Before describing the results of these experiments, however, the construction and principle of the apparatus may be briefly explained. In a word, the invention takes the form of an air thermometer, in which the expansion of air by heat in an air box fixed to the ceiling is made to inflate a thin hollow indiarubber diaphragm, which, raising a small terminal rod, brings it into contact with another terminal. An electrical circuit thus being completed, the current set up rings an alarm bell, releasing at the same time a semaphore which serves to indicate the whereabouts of the outbreak. As will be seen from the accompanyng drawings the apparatus consists of three essential pieces—the air box, the pulsator and the indicator. The action of the apparatus and the part each piece plays are as follow: Heat currents ascend to the ceiling and surround the thin sheet-copper covers of the air-box (*q*, in Fig. 1); the enclosed air consequently expands, the

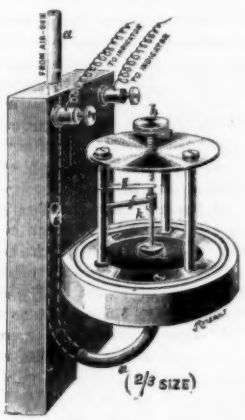
FIG. 1.



The Air Box.

whole force of the expansion being directed to the tube (*a*); driving the fine column of air within it till it reaches the under-side of the sheet indiarubber diaphragm of the pulsator (shown at *e*, in Fig. 2), which rises, lifting the rod (*k*) until, by means of the platinum tongue (*g*), it touches the screw (*h*), making electrical contact. The electro-magnet of the indicator (*m*, Fig. 3) becomes instantly magnetised, pulls down the armature (*o*), and lifts the hooked end of the

FIG. 2.

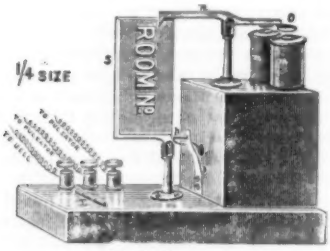


The Pulsator.

lever (*n*) out of the notch in the semaphore (*s*), which immediately drops, falling across a conductor (*x*) and ringing a bell; and so long as the semaphore remains in that position the

bell continues to ring; bearing also the name of the room upon it, the semaphore indicates the locality of the fire. The air-boxes and pulsators may be in the same room, or in proximity to each other, but the indicators may be placed in any part

FIG. 3.



The Indicator.

of the building protected, or at any remote distance, as, for example, in the porter's room at a hospital, in the watchman's room at a warehouse, or in the officer's cabin on board ship. Simplicity of construction is not the least advantage attached to the invention, whilst the sensitiveness of the apparatus to thermal changes and the ease with which it may be adjusted over a wide range of temperature is apparent from the following experiments which were carried out at THE LANCET offices a few weeks ago. In the first experiment a lighted Bunsen burner was placed on the floor directly under the air-box, which was fixed inside the ceiling flower about eight feet from the floor. The temperature just underneath the air-box at starting was 61° F. In little less than two minutes the bells started ringing, the temperature having risen only two degrees and a half. The apparatus having been adjusted again, the same burner was placed towards one of the corners of the room at a distance of six feet from the centre. The bells rang in two minutes, the temperature underneath the air-box being four degrees higher than at starting. Once more the terminals were adjusted and this time in very close proximity to one another. In less than a minute and before the difference of temperature was more than a degree the bells started to ring. These experiments were enough to illustrate the sensitiveness of the instrument to small changes of temperature; in fact, the delicacy of adjustment of which it is capable would obviously make this invention applicable to other purposes. As examples may be mentioned the regulation of the temperature of the sick-room and of wards of hospitals, and certain manufacturing operations in which it is necessary to keep the temperature below a given point, as in the fermentation of liquors &c. The next experiment indicates the wide range of temperature to which the instrument may be set by merely varying the distance between the connecting points in the pulsator. The temperature of the air near the ceiling was 68·5°F. A gas stove was then lighted in one of the corners of the room, and in a short time after lighting, the temperature of the air near the box having reached 90°F., the bells started ringing. With a few practical trials like these, the instrument can be set to any required temperature, the heat which might normally be produced by gas-burners or stoves being of course taken into consideration. Lastly, the conditions of an ordinary outbreak of fire were imitated by merely lighting a newspaper in a remote corner of the room. In less than a minute after lighting the bells were ringing. The arm of the indicator, it should be pointed out, not only serves to complete the circuit, but also interrupts the current of the electro-magnet in falling, so that the full force of the battery is directed to the ringing of the bell. The indicator may contain any required number of semaphore arms, representing so many rooms of a large building, as in a hospital, a hotel, a school &c. In the same way the chief cabin of a ship could be fitted with semaphores, each corresponding with various parts of the vessel.

Of course the objections which generally apply to the use of electrical fittings apply to this invention, but the ease with which the apparatus may be tested renders any objection on that score invalid. It would only be necessary to drop the semaphore just before retiring to rest in order to see whether the current is passing satisfactorily. Absolute protection could be secured at any rate by examining the system from time to time—a matter involving very little trouble, little more indeed than the periodical winding and regulating of clocks. The apparatus has been placed, we understand, in several large establishments, where it has remained unimpaired for several months.

We commend this invention to the notice of our readers. Our experiments justify us in stating that it fully answers the purpose for which it is designed; moreover, its structure is not complex and its action is prompt and certain. In view of the great loss of life by fire and the enormous destruction to property which is constantly taking place in London and elsewhere, it is to be hoped that some such fire indicator as this will be universally adopted.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE.

ON Thursday afternoon, Feb. 2nd, a meeting was held conjointly of the Midland Medical Society and of the Birmingham Branch of the British Medical Association, in the library of the Medical Institute at Birmingham, to consider the objects of the British Institute of Preventive Medicine with the view of furthering the same.

Mr. Eales, President of the Medical Society, occupied the chair, and after Dr. Ruffer, honorary secretary to the British Institute of Preventive Medicine, had delivered a speech explaining the progress and import of bacteriology discussion was invited.

Mr. Bennett May moved, and Dr. Savage seconded, a resolution to the following effect: "That the members of the medical profession in Birmingham and district cordially approve of the objects of the British Institute of Preventive Medicine."

This resolution was very cordially received, and the following spoke in favour of it: Mr. Lawson Tait, Mr. Barling, Dr. Douglas and Dr. Joy.

Mr. Lawson Tait said that he fully assented to the resolution, feeling that, while he objected to a certain class of surgical investigations, bacteriological experiments on animals had proved of great value.

On the motion of Dr. Douglas, seconded by Dr. Joy, it was resolved that a rider be added to the foregoing resolution: "At the same time they consider that the Government should be the largest financial supporters of an institute which is for the benefit of the nation at large, and that endeavours should immediately be made to secure that support."

At the commencement of this discussion Mr. Lawson Tait left the meeting.

Mr. Victor Horsley, after dwelling strongly on the necessity of the institute being founded by subscription among the public at large, remarked on the great value of the institute to the medical schools throughout the country in supporting the departments of bacteriology and the teaching of public health medicine.

Dr. Ruffer having replied, the motion was put to the meeting and carried unanimously and with much enthusiasm.

WIGAN MEDICAL SOCIETY.—The following gentlemen have been elected office-bearers for 1893:—President: W. C. Barnish, Esq., M.R.C.S. Eng. Committee: Messrs. M. Benson; E. H. Monks, Jun.; C. M. Brady; J. A. Marsden; R. H. Cowan and J. B. Stuart, J.P., Ex-President. Treasurer: E. H. Monks, Jun., L.R.C.P. & S. Ed. Honorary Secretary: Wm. Berry, F.R.C.S.I.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 11, 1893.

M. HAFFKINE, who, with Professor ROUX, has for some time been working in the laboratories of the Pasteur Institute, has now so far advanced his investigations on the action of a *virus fixe* in protecting susceptible animals against large doses of cholera poison, and from experience of more than fifty cases has been able to demonstrate so satisfactorily that even in the case of the human subject there is not the slightest danger to be apprehended from the application of his method, that he has determined, if possible, to try its efficacy in certain of those districts in which cholera is frequently met with, and with this object in view he has decided to go out to India.

During a brief stay in this country, whilst making arrangements for his trip to India, M. HAFFKINE has, at the invitation of those at the head of the pathological department at the Netley Military Hospital, given a demonstration of his methods of preparing the "vaccine" and of making inoculations to the "surgeons on probation" now undergoing their course of training; on Wednesday he also gave a lecture at the theatre connected with the Examination Hall of the Conjoint Board of the Royal Colleges of Physicians and Surgeons, of which we publish a complete and special report in another column of THE LANCET. During his stay in London he has inoculated three gentlemen, two of whom intend to travel through cholera-stricken districts at an early date.

The virus may consist either of living organisms or of organisms that have been killed by the action of a dilute solution of carbolic acid, although M. HAFFKINE maintains that he is able to obtain far more reliable and permanent results when he uses, not the dead but the living bacillus. It is well known that in the case of most parasitic microbes grown in artificial media there is a distinct diminution in virulence; whilst on the other hand, as M. PASTEUR pointed out, the virulence may be very considerably increased by cultivating these same organisms in special animals or in special tissues. Attention was first drawn to this in the case of fowl cholera and anthrax, about the same time that it was noted that organisms modified by cultivation in media, or the chemical products of such modified organisms, might be used as "vaccines," which, when inoculated, would afford a certain amount of protection against the action of more virulent "vaccines." In the case of hydrophobia the constant activity of a virus from a special species and from a special position was very accurately demonstrated. Thus it was found that the virus in the dog taken from certain positions was of constant strength; when it was inoculated into the monkey it gradually became considerably attenuated as it was passed on from animal to animal, but after it was again inoculated into a rabbit, dog or guinea-pig it gradually assumed more or less of its former virulence, in the case of the rabbit the virulence becoming so exalted that it caused death in about half the time taken by the ordinary virus from a dog.

M. HAFFKINE finds that he can obtain very much the same results in the case of cholera—in this case, however, using different tissues or positions instead of different animals. He—working with Dr. ROUX and following PFEIFFER and NOCHT—found that it was impossible to keep up the virulence of the cholera organism in artificial cultivations, even when it was passed from time to time through animals. There could be no doubt that the organism was the same morphologically, but functionally it had undergone some change by which it was rendered less virulent. Moreover, it was impossible to obtain pure cultures of any standard strength by cultivating it in the intestinal canal of animals (the position in which the cholera may be said to occur most naturally in man) because of the presence of other organisms that are found in this position, and its virulence became so much altered and so irregular that it was impossible to rely upon this method for anything like constant results. GAMALEIA, working with the vibrio Metchnikovi, found that more constant results might be obtained by injecting the organism into the pleural cavity; but here again the results were far from satisfactory, so that when HUEPPE and PFEIFFER suggested inoculating the cholera organism into the peritoneal cavity the idea was at once taken up by M. HAFFKINE and Dr. ROUX, who found in this method all that they required for their purpose. They could introduce any quantity of the organism, and so could kill a guinea-pig in a longer or shorter time just as they might wish—in such a short time, indeed, that it was possible to obtain perfectly pure cultures from the fluid that collected in the abdominal cavity as the result of the inoculation, and they found that in this manner they were able to obtain a virus so greatly intensified that it would kill much more rapidly and in very much smaller doses than the virus obtained by cultivation in artificial media. It is certainly more virulent than any virus that could be accidentally received into the system, so that if an animal could be protected against this it might certainly be said to be protected against accidental infection, and the same would hold good in the case of the human subject. Injected intraperitoneally, a dose of about one-twentieth of the quantity of an ordinary culture kills guinea-pigs in eight hours, but on subcutaneous inoculation, although setting up great œdema and sloughing, it confers a power of resistance on the animal even when KOCH'S method (of neutralising the intestinal contents and of paralysing the peristaltic action by morphia) is used, when NICATI and RIETSCH'S method is employed, or indeed if the inoculation is made intraperitoneally. The peculiar corrosive action of the "exalted" virus can, however, be to a great extent eliminated by cultivating the microbe in the presence of oxygen for one or two days at a temperature of 39° C., making fresh cultures every twenty-four hours, the new generations giving rise when inoculated to œdema, no doubt, but to less sloughing. This organism so cultivated through a series of generations, either alone or mixed with 0·5 per cent. carbolic acid, forms the first "vaccine"; it gives rise to slight fever and some œdema. When an "exalted virus"—that is, a virus that has passed through a long series of animals either crude or cultivated through one or two generations

on agar-agar—is injected subcutaneously into an animal that has been inoculated with the first vaccine it gives rise to marked œdema but to no sloughing; it may therefore be used as a second "vaccine." The intra-peritoneal injection, or the ingestion of what under ordinary conditions would be two or three times the lethal dose of the exalted virus, has now no effect on the animal and therefore it is assumed that it protects against the ordinary poison of cholera which has not been exalted by passage either through special animals or through special tissues.

M. HAFFKINE has animals so inoculated, which after four and a half months' inoculation resisted very large doses of the ordinary cholera poison and he maintains that it is quite possible that increased resistance in the human subject may be set up and maintained in the same manner. How much longer such protection lasts it is difficult, or as yet impossible to determine, and whether such protection extends to the human subject it is also as yet equally impossible to say. Most epidemiologists, however, appear to be agreed as regards the fact that one attack of cholera does not necessarily protect against another, and there are cases recorded in which patients have had two attacks within a few months of each other; some maintain, however, that such cases are the exception. Now that attention has been drawn to the subject, it is to be hoped that reliable information may be obtained and that our medical officers in India may be able to collect accurate statistics on this most important point.

Whatever may be the outcome of M. HAFFKINE'S work from the clinical point of view in its special relation to cholera, its pathological interest is very great indeed; the very fact that he is able by his preliminary inoculation to eliminate the excessive œdema and subsequent sloughing described by him is a fact of prime importance, and we are sure that the best wishes of all who heard M. HAFFKINE'S lecture will follow him in his work amongst our fellow subjects in India.

As we believe that M. HAFFKINE'S enterprise has been initiated privately, and some or most of the funds have been supplied by himself or his friends, we hope that should any further sum be required to enable him to complete his investigations we in this country shall not be behindhand in rendering our assistance; and, hopeful as he may now be, one cannot help feeling that the tax on his financial resources may be much greater than he at present anticipates.

IT is natural at the beginning of a Parliamentary session, and especially at the beginning of the first session of a new Parliament, for men to speculate on the probable advantage of that Parliament to the public and to the interests of their own calling. The medical profession does not lend itself, as such, to party causes. All parties alike are interested, or profess to be, in the health of the community, in the repression of disease and, wherever it is possible, in its extinction. Yet there have been striking illustrations of the fact that unless party purpose can be served by health questions they are apt to fail to excite the interest of the statesman or the politician. There is one striking instance in point. The question of legislation on the Corn Laws shook the fabric of party to its centre. The question of the bread-supply was a burning one. But the question of the water-supply, only secondary to that of bread-supply, is one on which politicians of undoubted humanity have always felt indifferently and coldly. The explanation is simple, if not creditable. The corn question affected the rise and fall of Governments. The water question does not, or does so in an infinitely less degree. To realise the cruelty of a defective water-supply needs little imagination. But, little as it is, it was too much for the generation of statesmen who repealed the Corn Laws. It was not a party question, and until now it remains unsettled.

We are not sanguine enough to believe that the new Parliament is likely to show itself much more deeply interested in the health of the people and in the profession which exists for the maintenance of that health than its predecessors. As we write we have before us a specimen of the way in which the Government is ready to tamper with one of the greatest of health questions. There is every prospect of a wide and fatal epidemic of small-pox. From every quarter we hear rumours of the resuscitation of this deadly and horrible disease and of the failure of mere police and sanitary precautions to prevent it stealing into the very midst of all our great centres of population. Two public men—one a Member of Parliament—have been lost to the public by contracting the disease abroad—both of them enemies of the vaccination laws and one of them certainly not revaccinated. At this very moment, with London, Glasgow, Manchester, Leicester and other large towns threatened with a serious outbreak of small-pox, Mr. ASQUITH, the Home Secretary, in answer to Mr. PICTON, has announced his intention to introduce a Bill to abolish repeated fines for the non-vaccination of the same child. We are aware of the recommendations of the Royal Commissioners and we are not disposed to deny that there is something to be said for altering a law which makes many mistaken men appear as martyrs. But the moment is ill-chosen, and the action of the Home Secretary will not tend to strengthen the sanitary authorities in coping with an epidemic which exceeds every other in costliness, in immediate horror and in the permanency of its evil consequences, even where it does not kill.

We are not unmindful of the great appreciation of the profession which has often been expressed, and which we believe to be honestly felt, by the Premier. And we are fain to hope that he will find some way of enabling the profession to enforce the teaching of medical science on the nation. He has already earned the gratitude of the profession by placing one of its members, Sir W. FOSTER, in the Government. During his last administration several of the existing baronetcies of the profession were created. There is yet one other way in which he could secure at once the advantage of the public and the further gratitude of the profession—viz., by raising to the Upper House two or three of its distinguished members. No English statesman has hitherto had the courage to raise to the House of Lords a member of the profession which has included in its roll the names of men second to none in respect of the lasting services which they have rendered to the human race. It is vain to think that such men can aid the councils of the State through the House of Commons; they are

otherwise engaged. To submit them to the ordeals of popular election would be to call them from the cherished pursuits of their life, which are of high consequence to humanity and society; but to summon them to the House of Lords would be to pay a not too high compliment to the profession and to add sensibly to the dignity and the wisdom of the Upper Chamber. There is no other country in Europe which withholds such a due honour from the profession. Mr. GLADSTONE is credited with being a strong party man; but he is much more than that. He is in touch with all professions, with all learning, with men of authority in every calling. We believe him to be capable of doing this great act of justice to our profession, and of discharging it in no mean spirit of party, but on broad grounds, which would enable him to select medical men for this honour without reference to their political creed. For the rest, we must not expect too much from the Ministry or from Parliament. Mr. JOHN BURNS, whose good motives are recognised by men of all sides, has given notice of his intention to introduce a Bill to restrict the hours of labour for men of all callings to forty-eight in the week. But we venture to say that even he will not include in his benevolent measure the members of a profession who are expected to respond to every call over the twenty-four hours of day and night and for whom no Sunday or Bank Holiday brings a suspension of work. We cannot ask for such legislation for medical practitioners who are in the widest sense of the term "working men." We ask only that the profession may be recognised in ways consistent with its own pursuits and ways that will favour such pursuits and recognise their teachings and results.

DR. JAMES GALLOWAY'S lecture on the Parasitism of Protozoa in Carcinoma should serve a useful purpose if it does nothing more than divert into a new line the thoughts of those who, in looking upon cancer as an incurable and unpreventable disease, have adopted a stereotyped formula. Passing lightly over the form of epithelial proliferation found in the rabbit's liver as the result of the action of coccidia and putting aside for a time the very interesting facts regarding indirect infection, which themselves are worthy of deep study, Dr. GALLOWAY, after most careful investigation, corroborates the fact that a great deal of confusion has existed, and still exists, as to the nature of various bodies contained within cells. He points out that many authors have described as parasites objects which demonstrably have nothing to do with parasitism, and he insists on a careful discrimination being made between organic parasites and bodies which are merely the result of degeneration or irregular development in the cells. This is a very important step, and will save many future observers the trouble of contending against theories that have no foundation in fact and observations that cannot be corroborated by independent workers.

The more important of the false parasitic bodies, he considers, may be classified under five headings: (1) partial invagination of one cell within another; (2) leucocytes within epithelial cells, especially in secondary cancerous deposits in lymphatic glands and towards the margins of rapidly infiltrating growths; (3) endogenous formation of cells; (4) irregular mitosis; and (5) various degenerations, such as colloid, "keratinous" or irregular breaking up of the chromatin. There are others, no doubt, but all the above forms have been described at some time or other as parasitic bodies. It is impossible, however, for anyone, he says—and in this he is supported by SOUDAKEWITCH, RUFFER and WALKER—to mistake any of these bodies for the true parasite.

Dr. GALLOWAY very wisely refrains from expressing any very definite opinion as to what part these parasitic protozoa play in the etiology of cancer. He describes their position in the tumour and in the cells; their relation to the body of the cell and to the nucleus; he shows in what points they differ from, and in what they resemble, the parasites found in the adenoma of the liver of the rabbit. He does not ignore the difficulties that surround the proof that must be forthcoming before these protozoa can be accepted as playing any definite etiological part in the production of cancer, and he leaves each of his readers, after laying before him a very careful and accurate description of the only bodies yet found which show any real evidence of their parasitic nature, to form his own opinion. Dr. GALLOWAY agrees with METCHNIKOFF in the fact that they are distinctly foreign bodies within the epithelial cells, that their appearance is essentially that of an organised structure, that their staining reactions are perfectly distinct from those presented by the normal cell contents, and that their behaviour within the cell resembles that of certain other parasitic organisms in the lower animals—"all point forcibly to the conclusion that these bodies, though not necessarily coccidia, are nevertheless protozoa and are parasitic in cancerous epithelium." We have, then, an accentuation of the fact that something new has been found in cancer, and a further step has been made in the direction of the goal of the surgeon's desire. Some hope is afforded that we are within reach of a knowledge of the etiology of cancer: when this knowledge is obtained, and not till then, there may be a reasonable prospect of treating cancer successfully, first of all directly, and secondly by prophylaxis, the latter promising a much more successful field of operation than the former. It will not do, however, to be too easily led away in this matter, for we may anticipate that past experience will be repeated, and that before long these parasitic protozoa will be found, or will be supposed to be found, in all sorts and conditions of tumours.

Whilst preserving a perfectly open mind, it will be necessary to examine every observation most carefully and to test every deduction most rigorously; only by doing this shall we be able to sift that which is valuable from much that is of less worth; but if we do this we may anticipate that before long our knowledge of cancer and of cancerous growths will have not only a much broader basis, but also a more detailed and accurate character than it has at present.

It is curious to observe that each successive Morton lecture, beginning with that given by Sir JAMES PAGET and ending with that given by Dr. GALLOWAY, has brought the specific infective theory of the etiology of cancer more into prominence, and it is to be hoped that ere long the lecturers may have so far mastered the etiological part of their subject that they may be enabled to devote some part, at any rate, of their time to the operative, therapeutical or prophylactic treatment of this fell disease. The wishes of the founder of

the chair are undoubtedly being observed, but they will not be perfectly fulfilled until cancer can not only be successfully treated, but can also be prevented.

Annotations.

"Ne quid nimis."

ROYAL COMMISSION ON VACCINATION.

IT is announced that the Home Secretary is about to bring in a Bill to give effect to the interim report of the Royal Commission on Vaccination, a report which proposes the abolition of repeated convictions without suggesting any minimum penalty for refusal to comply with the law. We entered so fully into the many objections against piecemeal legislation before the evidence had even been heard on the subject in a leading article on May 14th, 1892, that it is unnecessary, pending the issue of the Bill, to do more than to recall that article to our readers' notice and to suggest that they should without delay bring the matter under the notice of their representatives in Parliament.

THE OATHS ACT, 1888.

THE late Mr. Wakley had a very poor opinion of the legal acquirements of the average attorney, solicitor or even barrister of his day—sixty years ago,—and was wont to show this up in a very telling fashion when they urged their claims to the office of coroner. Times have changed and brought with them an improvement in the social position and legal acquirements of members of the long robe as well as of those of the lower ranks of the legal profession. Let us also in justice add that the same improvement is to be noticed in members of the medical profession, who are, speaking generally, as superior to those of a bygone age as are the solicitors of the present day to their brethren of the past. For all this if Mr. Wakley had been living now he would have observed with amusement the ignorance of lawyers with regard to the Oath Act, now more than four years old, and the superior knowledge of it exhibited by members of the medical profession. Dr. Gordon Hogg inaugurated his accession to the office of coroner by showing the jurors and witnesses who came before him his consummate knowledge of an Act of Parliament which was evidently wholly unknown even months afterwards to legal coroners, county court judges and stipendiary magistrates. The question so often and so sneeringly asked, "Who shall decide when doctors differ?" suggests a very pretty commentary on the practice of lawyers of all degrees in deciding upon the meaning of plain English words. This is shown by the experience of the last few weeks. At the assizes held in Exeter in December several medical witnesses were permitted to be sworn with uplifted hand on expressing their wish to that effect. More recently a medical practitioner was permitted to do the same in the Court of Probate, seven medical witnesses were similarly sworn in the Liverpool Court of Passage; whilst on the 30th ult. three persons—including Mr. Gornall, medical officer of health, and his son, Dr. J. G. Gornall—were all sworn in the Warrington Police-court with uplifted hand. On the other hand, Judge Foulkes, of the Warrington County Court, declined to permit a solicitor to take the oath with uplifted hand, and asked him his reason. On being informed that it was from fear of infection (there being at the time many cases of small-pox in Warrington), the judge ruled that the witness must kiss the book as usual, and this was done. Reading the section of the Act as we would read any other sentence of English words it is illegal to ask any question whatever or to refuse the requested permission for one moment. We trust that if those who have to administer the law have any doubt on this point it will be at once cleared up, for there can be no question that medical and lay witnesses, as well as jurors and others who have to take an oath, will claim to be sworn in accordance with this section, as they have a perfect right to do. A more doubtful point is as to the exact mode in which the Scotch oath ought to be administered. If our interpretation of the section is correct, it should be administered by the judge, magistrate or other presiding officer of the court standing up, holding up his right hand, directing the witness to do the same and to repeat after him the words, "I swear by Almighty God, *and as I shall answer to God at the great day of judgment*, that I will speak the truth, the whole truth, and nothing but the truth." On the other hand, we know it is contended that a subordinate officer of the court can administer the oath (as he does usually), and that the words in italics need not be used. The whole subject of oath taking in our courts of law is on its trial; it has been generally irreverent, unimpressive and in many cases scarcely decent. Those who are responsible for it will do well in aiding, rather than hindering, reform. The assizes will soon commence, and it is desirable that those who are likely to be grand jurors, who have to administer as well as take the oath, should be well acquainted with this Act, which, though four years old, still seems to be very little known.

MR. GLADSTONE.

THE work set before Mr. Gladstone on Monday next gives an interest and an importance to the subject of his health even greater than that which usually attaches to his unique personality. Men of every shade of political opinion must be proud of a statesman who at eighty-three can display the vigour he has already shown in the opening days of the session. His colleagues say that he is remarkably well, and on some evenings he has been the first Minister to return after dinner to the Treasury Bench. On the last occasion on which he introduced a Home Rule Bill, and when he was seven years younger, he spoke for three hours. It cannot be said that the present occasion demands a less effort, or one which he can make in a shorter time. But as his own health and power are immense factors in the political situation it is imperative that they should be considered even at the expense of some completeness in the great task which he is expected to undertake. Such considerations will not weigh much with him in the ardour of what he feels to be his supreme effort unless they are pressed upon him by those who coöperate with him and by whom he may be influenced. The great responsibility rests on them of insisting on his transferring to others all details of statement or of work which can possibly be so devolved.

THE DIFFUSION OF SMALL-POX.

THE small-pox intelligence remains much what it has been during the past two weeks. A steady but a slow increase in the diffusion of the disease is in progress, but with few exceptions the outbreaks are not on a wide scale. As heretofore, the spread of the disease is largely due to the migration of the tramp and pauper class and to the infection of common lodging-houses; that is to say, it is due to the lowest and the most ignorant of the population, amongst whom it is not to be expected that resort to vaccination will be practised. In the metropolis the numbers attacked have again increased, and on the 7th inst. 93 small-pox patients were under isolation in the hospital ships. We also learn of the presence of the disease at Appleby, Bakewell, Barnoldswick, Barnsley, Berwick, Barnard Castle, Birmingham, Bradford, Bromsgrove, Bolton, Carlisle, Chadderton, Chesterfield, Corwen, Coventry, Derby, Dewsbury, Durham, Easington, Edmonton, Gateshead, Halifax, Harpurhey, Heck-

mondwike, Holbeck, Huddersfield, Hull, Jarrow, Keighley, King's Norton, Kirkby Lonsdale, Kirkby Stephen, Leeds, Leicester, Linthwaite, Liverpool, Longton, Macclesfield, Manchester, Neath, Newcastle-on-Tyne, Northampton, Oldham, Oxford, Penrith, Rotherham, St. Albans, St. Helens, Salford, Sheffield, Stockport, Southampton, Sunderland, Swansea, Thetford, Wakefield, Warrington, Wessenden Valley, near Marsden, West Hartlepool, Wigton and York. Amongst the towns in which any substantial number of fresh attacks occurred last week are: Barnsley, 4 cases; Leicester, 12 cases; Manchester, 44 cases; Oldham, 24 cases; Rotherham, 5 cases; Salford, 8 cases; Southampton, 19 cases; Sheffield, 4 cases; St. Helens, 8 cases; Wakefield, 4 cases; and Warrington, 6 cases. It is difficult to estimate the fresh attacks in Leeds, where there is no obligation to report them, but between 60 and 70 small-pox patients are in hospital there. In Manchester 327 cases have already been isolated from the city, and 44 cases have been brought into the hospitals from outside districts.

BROADMOOR CRIMINAL LUNATIC ASYLUM.

DR. NICOLSON'S annual report for the year ending 1891 upon the Broadmoor Criminal Lunatic Asylum shows that the asylum population included 336 persons who had committed homicide, 205 of whom were men and 131 women. These cases of homicide consisted of 313 cases of murder and 23 of manslaughter. The admissions to the hospital included 41 men and 15 women during the year. Of these 33 were "Queen's pleasure" inmates and the remaining 23 consisted of insane convicts. The report points out that although there were in all 539 afflicted people in the asylum suffering from various degrees of insanity yet at no period during the whole year had it been found necessary to rebuke any member of the staff for imprudence in dealing with those under his charge. This is a very satisfactory statement. The report also mentions that no inmate had succeeded in effecting an escape, and that it had not been found necessary during the year to have recourse to mechanical restraint in any form. The facts and figures stated above afford ample evidence of the nature of the organisation and of the excellence of the arrangements made at Broadmoor for the care of criminal lunatics. On Friday, the 3rd inst., the staff and attendants of the asylum enjoyed their annual entertainment. In the course of some complimentary remarks to the members of the staff Dr. Nicolson expressed himself as being highly pleased with the efficient assistance which they had rendered during the past year. We take the opportunity of congratulating Dr. Nicolson himself and his assistant medical officers, Dr. Isaac, Dr. Nootts and Mr. W. E. Miles, on the able manner in which the onerous and difficult duties appertaining to the management of the institution are carried out.

THE CONSEQUENCES OF TIGHT LACING.

IT would still be premature to conclude that we have done with the practice or the ill effects of tight lacing. Were we disposed to doubt the prevalence of this custom the medical records of every day could prove its continuance, nor can we see how it should be otherwise as long as the stiff corset retains its place as an article of dress. Now and then some fatal mischance is found to be traceable to its abuse, while instances in which ill-health has been the penalty are far from uncommon. Every practitioner is familiar with cases of this kind, and it needs no searching examination to convince him that among the pallid complexions and palpitating hearts which require his attention some are directly traceable to the pinching vanity of the corset. Why this effect should follow such a cause we need hardly explain to medical readers. They can well appreciate the vicious influence of cramping pressure exercised upon the trunk and its viscera without cessation for the greater part of every day. Let us nevertheless discuss briefly the effect of such pressure upon the different organs exposed to it. Naturally the kidneys, being deeply placed, may be expected to escape entirely from its direct action, and they constitute the sole example of such immunity. The lungs and heart suffer almost if not in equal degree, and the consequences in their case are visible in impaired respiration, defective nutrition of the blood with consequent impoverishment of every organ and tissue, and a weakened, and excited or languid cardiac action, culminating, it may even happen, as in an instance lately reported, in fatal syncope. The effect upon digestion is noteworthy. There being but little space for the normal expansion of the stomach after eating, less and less food is taken till the foolish sufferer is virtually half-starved. Constipation is a necessary sequel, and flatulent distension adds another impediment to the course of a labouring circulation and overpressed respiratory organs. Naturally those viscera which lie low in the pelvis likewise feel the strain, so that almost every function required for healthy existence is deprived of its normal exercise. What then of health itself? And need we feel surprise if now and then the thoughtless vanity which thus exchanges every physical comfort for mere appearance leads to forfeit of life also? If experience be credited it is so.

THE CUSTOMS AND THE PORT OF LONDON.

THE Port Sanitary Committee of London were received at the offices of the Local Government Board last week by Sir Walter Foster, who was accompanied by Dr. Thorne Thorne, C.B., and Mr. Adrian, assistant secretary. The object which the deputation had in view was to appeal against a proposal of the Commissioners of Customs, who desire to make a radical change in the examination of vessels by the port health officers, a change which in the view of the deputation must be regarded as fraught with mischief as regards the protection of the country against cholera. It is understood that the deputation received from Sir Walter Foster an acknowledgment of the excellent manner in which the cholera regulations had been carried out in the port of London, and that they were promised that their statements should be forthwith brought under the notice of the President of the Board. Representatives of the press were not admitted to the conference, but it transpired that the Customs officers alleged they feared infection of small-pox from possible association with port sanitary officers. We assume from this that there must be some anti-vaccinators amongst the staff off Gravesend, and that they do not feel themselves safe in their unprotected state. But, if so, surely he Commissioners could move these officers to some other port, and not defeat arrangements against cholera in order to avoid some remote danger of another infection?

THE HEALTH OF FLORENCE.

THE Communal "Ufficio d'Igiene" has presented the Syndic of Florence with its report on the health conditions of the city within the last year. The deaths amounted to 4096, giving a diminution of 69 in comparison with those of 1891, which numbered 5065. Deducting from these the deaths of those persons not belonging to the commune there is a total diminution, as compared with last year, of 147; and this, in spite of the fact that in the month of January the mortality, due mainly to influenza, rose to 947. After this the succeeding months marked a notable decrease in the deaths, which, maintained till the close of November, notwithstanding the heavy mortality of January, showed on the whole year the total diminution above indicated. The population of the commune being 184,521 on Dec. 31st, 1891, the quotient of deaths amongst those belonging to the com-

mune during last year was 22·64 per cent. of the inhabitants. The deaths from infectious diseases were 141 less, being 240, as compared with 381 of the year preceding—a percentage of 4·80 on the total, instead of 7·52, which was the percentage in 1891. Very remarkable was the diminution of the death-rate from typhoid fever, which caused only 88 deaths in place of the 286 registered in 1891. This figure constitutes the minimum of deaths from typhoid fever for a period of more than twenty-five years. The year 1893 (concludes the report) commences with the best auspices and every hygienic indication serves to show that Florence, already one of the healthiest cities of Europe, and on this account a place of sojourn for visitors from both hemispheres, continues to progress in salubrity whilst concurrently improving her sanitary regulations.

THE SUPPRESSION OF SKY-SIGNS.

IT is a matter for general satisfaction that the London County Council have taken decided action in dealing with the employment of sky-signs for purposes of advertisement, and that they have with practical wisdom converted this once limited term into one of much more comprehensive but still accurate meaning. By a recent amendment of their Act of 1891 the term in question is made to include any sign suspended overhead, unless it be so attached to the coping or wall of a building as to form virtually a part of it. Lovers of the artistic will rejoice at this wholesale purgation of our thoroughfares from those unsightly symbols which a year ago had begun to multiply in alarming numbers. Happily for the success of their appeals, these were not unsupported by still stronger reasons than any which might be founded on the ground of comely appearance only. We may take it that the weightier consideration of public safety is that which has chiefly influenced the Council in its decision. It has judged, and wisely, that with overhead wires and their supporting posts, beside the more ordinary and ancient menace implied in our use of chimney stacks and pots, tiles, slates and other well-known resources of the builder, we have already more than enough reason for anxiety. Occasions of accident being thus freely provided as part of the necessary environment of civilised town life, we may well be excused the addition of even greater risks for the mere sake of such public announcements as can be made with equal effect by other and relatively harmless methods.

THE CONJOINT DIPLOMAS OF IRELAND AND POOR-LAW APPOINTMENTS IN ENGLAND.

A CORRESPONDENCE has been sent to us founded on a strange misunderstanding between Mr. Charles V. Vereker, a Licentiate in Medicine, Surgery and Midwifery of the Royal College of Physicians and Surgeons of Ireland (Conjoint Scheme) on the one hand and the Royal College of Physicians in Ireland on the other, with a secondary correspondence between the different parties and the Local Government Board. Mr. Vereker applied for the appointment of medical officer to the Woolton district (under the Prescott Union) and understood the clerk of the Union to take objection to his diplomas as being an insufficient qualification under the regulations of the Consolidated Orders. Mr. Vereker at once properly called on the Registrar of the College of Physicians in Ireland to vindicate the validity of his diplomas. The college lost no time in repesenting the grievance to the Local Government Board, which in its turn was prompt in explaining to the clerk of the Prescott Union that the diplomas in question were quite adequate to the requirements of the Consolidated Orders. Thereupon the clerk to the Union replied that Mr. Vereker's place in the contest was challenged because his application came a day late, and that any question as to the sufficiency of his qualifications was raised only between himself and Mr. Vereker. We cannot even now understand how the clerk came to raise such a question. But it is in itself so unreasonable, and it has been so effectually disposed of by the action of Mr. Vereker, the Irish Colleges and the Local Government Board, that it may be dismissed without further notice.

THE DUKE OF YORK AND THE PREVENTION OF CRUELTY TO CHILDREN.

ON Monday last H.R.H. the Duke of York presided at the festival dinner of the National Society for the Prevention of Cruelty to Children. The work which it celebrated was a comparatively inconspicuous one—a work of ordinary kindness and of justice exercised on behalf of helpless and wrongful sufferers. Was it therefore the less notable or the less worthy of support? Its royal advocate thought otherwise, and we feel assured that in this view he is upheld by the great majority of his fellow-countrymen. The claims of the Society, on account of the excellent work it has done and still will do, and in particular on the ground of its preventive influence, were so ably championed on this occasion that before the evening closed nearly three-fifths of its pecuniary liabilities (£5000) were satisfied by those present. The remainder, we doubt not, will be readily accepted as a debt of honour by a public which is never more truly national than when it has resolved to give proof of its liberality.

FUNGI AS FOOD-STUFFS.

ON Monday afternoon, in the theatre of the Royal College of Surgeons, Professor Charles Bagge Plowright, M.D., M.R.C.S., delivered a lecture on Fungi as Food-stuffs. In his introductory remarks he described the morphology of fungi, and alluded to references to poisonous and edible fungi in ancient literature; he mentioned Ovid, who speaks of the peasants gathering white fungi for food, this being probably a species of the common mushroom; he referred, also, to the well-known lines in Horace about the meadow mushroom, which Horace considered to be the best. Galen, he pointed out, did not regard fungi with much favour, since he spoke of them as yielding cold, clammy, noxious juices. Towards the end of the eighteenth century the accounts of them became more detailed and the noxious species were discriminated more accurately from the non-poisonous kinds. Fungi were common in all parts of the world, but most abundant in the countries which enjoyed a temperate climate. As food-stuffs fungi had to be considered from the points of view of nutrition, of their palatability, and particularly of their digestibility. These varied exceedingly in different groups and subdivisions. For instance the mushroom, though being palatable and esteemed a delicacy, had been found to be exceedingly prone to give rise to a series of symptoms which the term "an attack of indigestion" did not sufficiently describe. On the other hand some fungi which were less nutritious did not give rise to any discomfort. An important consideration was the preparation which these objects received before being cooked. Many wholesome and nutritious foods might be very poisonous in their natural condition, but rendered innocuous by treatment. The tapioca plant afforded a good illustration of this. In the south of Europe fungi were gathered, dried and preserved in bags for consumption during the winter. Before being eaten they were soaked in water, which was thrown away, and this process was repeated several times before they were cooked. This treatment of course spoilt the flavour of the mushrooms. Preliminary desiccation might lessen the virulence of the harmful species, but this process was exceedingly likely to favour decomposition. Two of the most poisonous species of fungi remained poisonous after several months' drying. In France, where mushrooms abounded and where

people gathered them in the forests as a staple article of diet, they seemed to gather all sorts of fungi haphazardly as they came. Before cooking them, however, and using them as food, the fungi were invariably washed and soaked in salt-and-water, which acted as a powerful solvent of albuminoids and other organic compounds. Some continental cooks treated the fungi with boiling vinegar before cooking them, and thus they were enabled to eat species which were otherwise uneatable. By this treatment fungi lost their aroma and a good deal of their soluble nutritive properties. Dr. Plowright then dealt with the chemistry of the subject at some length. This showed that fungi were of very varied chemical composition, containing generally a large quantity of water and varying proportions of albumenoids and saccharine material. He then gave an interesting account of the common mushroom and the mode of distinguishing it from poisonous fungi. He spoke of its distinctive odour and the solidity of its stem as being points which assisted in making the diagnosis. Then the cuticle could be separated from the pilus. Unfortunately the most poisonous fungus which grew in this country, and which resembled the mushroom most closely, had also got a separate cuticle. All mushrooms should have the remains of the veil about halfway down the stem, and the stem should be cylindrical and solid; it was always well to avoid mushrooms which from any cause had hollow stems. There were undoubted instances in which the true mushroom had produced symptoms of poisoning—diarrhœa, vomiting and a certain amount of collapse—due, no doubt, to a condition of incipient decay which rendered fungi very dangerous. The next point to note was the colour of the gills. These varied very considerably. The gills were always pink in young mushrooms, always black in old ones; and between the two were found all shades of chocolate brown. In speaking of the varieties of mushrooms the lecturer mentioned the meadow mushroom of Horace as being the best. It was never very large, it had a beautiful pink colour, and the surface of it was white and smooth, but not glossy. He also spoke of the horse mushroom as an exceedingly good species, but it should be avoided when too large. One peculiarity of this mushroom was that it assumed a yellowish hue on being bruised or rubbed with salt. The lecture was listened to by a considerable audience and was evidently much appreciated.

SMALL-POX IN SCOTLAND.

THE contest in Scotland between the sanitary authorities and small-pox continues unabated and no decisive victory can yet be claimed on either hand. In Glasgow the new cases recorded recently have been distinctly fewer than they were a week or two ago, but nothing approaching a stamping out of the disease has yet been accomplished or could indeed be expected. In Stirlingshire, however, the efforts at prevention have so far been entirely successful, no recent case having occurred in the Slamannan district. In Perthshire the disease still exists at Crianlarich, on the West Highland Railway, and a week ago a fresh case occurred at Tarbet, Dumbartonshire, on the same railway track. But at the southern extremity of this railway, in the same county, the means taken have been effective, no new case having occurred for three weeks or more. Neither does the disease seem to have extended in Fifeshire, where the Kirkcaldy case proved fatal on Jan. 27th. Small-pox has cropped up, however, in quite a number of towns—in Selkirk, Barrhead, Gourock, Leith, Stranraer, Baillieston, Duns and Greenock. Its prevalence has had the effect of establishing an informal system of mutual notification between medical officers of health of adjoining districts. Navvies going on tramp from infected lodging-houses or districts are being traced from one district to another by the aid of the police. One striking feature of the action of the local authorities is the extent to which they are making use of the protection afforded by vaccination. In Glasgow the inmates of common lodging-houses are being operated on *en masse*, and a general revaccination of railway navvies is going on in Argyleshire, Perthshire and Dumbartonshire. In the central district of Stirling the sanitary authorities have come to the wise conclusion that a great many revaccinations are less expensive than a much less number of small-pox cases, and have sanctioned a general revaccination of the district. As a result of these procedures, we believe a well-known calf-lymph station in the north of England was recently quite exhausted of lymph. Where adults under revaccination are medically certified as unfit for work for a day or two some of the sanitary authorities have not hesitated to pay the wages of the men, rather than have the operation refused on the ground of possible temporary absence from employment. Indeed, the energetic way in which revaccination is being attended to by the Scotch public health authorities is a fact that may well be kept in view in any future legislation for England, where vaccination is at present entirely in the hands of the guardians.

INTERNATIONAL SANITARY CONFERENCES.

IT has been stated in the House of Commons by Sir E. Grey that the International Sanitary Conference signed at Venice in January and amended in Paris in June last has now been ratified by all the Powers except Portugal. A short time since we announced that Turkey and Portugal alone had failed to sign and later on we intimated that Turkey had signed. The Portuguese acceptance of the Convention was all along understood to be conditional on its being submitted to and accepted by the Cortes, and this has not yet been done. Hence the announcement contains no fresh news. On the other hand, it appears that the Austrian Government have made preliminary arrangements as to a further International Conference at Dresden, the object of which is to extend the principles embodied in the Venice Convention to Europe as a whole. Although it is stated that most of the Great Powers have consented to send delegates to this further Conference, it has not yet transpired how far Great Britain, whose interests differ much from the local interests of Continental Governments, has come to any decision on the subject.

THE EFFECTS OF THE REPEAL OF THE CONTAGIOUS DISEASES ACTS IN THE STRAITS SETTLEMENTS.

A RECENT number of the *Admiralty and Horse Guards Gazette* revived the question of the Contagious Diseases Acts and their repeal, asking if the health and lives of our soldiers were worth preserving. The writer urged that a Government inquiry should be held as to the direct results which have followed the repeal of these Acts in the various localities where they were formerly in force. From what appears in the daily press from time to time it would seem that in this country prostitution has diminished little either in the extent or in the intensity of its evils. We have also details as to what has occurred in the Straits Settlements in the years during which the local Act was in force and since its repeal. From a local newspaper and from a correspondent well acquainted with the locality we gather the following details. The first application of the Act in that colony took place in 1870, Sir Henry Ord being then the Governor. The medical duties in connexion with the administration of the Act were entrusted to and carried on by Dr. Anderson, Colonial Surgeon in Singapore, while later on and up to the repeal of the Act Dr. Thomas Irvine Rowell, then principal civil medical officer of the colony, continued in medical charge. Its operation was attended with such marked success as to call forth expressions of approval from the

officer in charge of the troops and the admiral of the station. Its benefits were not confined, however, to soldiers and sailors only, but extended to all classes of the community. As showing the effects upon the soldiers it was reported by the medical officer of the garrison in 1885 that there were only seventy-five admissions to hospital for venereal diseases out of a strength of 870 men, or a ratio of 86 per 1000, and of this number only 16 resulted from primary disease, or about 18 per 1000, none being of a severe form. It is painful to turn from this to note the effects of the repeal of the Act. In the year following its suppression the admissions for venereal diseases rose in one hospital alone from 4·68 to 19 per cent., while all the other hospitals showed a similar increase. Those who have resided in the colonies know well how terribly these diseases are aggravated by the excessively dirty habits of the native women, the great heat of the climate tending to aggravate their lazy, lethargic temperaments. The treatment in lock hospitals has a most beneficial effect in promoting habits of personal cleanliness in the patients, and this had a marked effect in the Straits Settlements not only in checking the amount and extent of the disease, but also in lessening the severity of the type. There was no friction during the administration of the ordinance, which worked smoothly from its first application until its repeal. The disastrous effects of this are evident not only in the increased ratio of disease amongst soldiers and sailors but also amongst the citizens generally. A leading article in a local paper, the *London and China Telegraph*, denounces the repeal of the Act in the Straits Settlements in no measured terms, and contrasts the action of the Government in dealing with this and with the opium question as a case of "filthy lucre *versus* filthy disease." The interests of those who cultivate opium are respected; the protection from disease of soldiers, sailors and civilians is ignored.

CEREBELLAR TUMOURS AND THE KNEE-JERK.

DR. HANDFORD of Nottingham relates in *Brain* a case of some interest. The patient was a lad of sixteen, whose first symptom was apparently causeless vomiting. He subsequently suffered from headache and giddiness, with difficulty and unsteadiness in walking. When he came under observation he had an ataxic gait and was subject to occasional fits, apparently of opisthotonic character. He also was found to have optic neuritis in both eyes, and he subsequently had some weakness of the ocular muscles and nystagmus. The knee-jerks when he was admitted were noted to be absent on both sides, but strangely enough ankle-clonus was present on both sides. Later this was not found. He became progressively worse and, without developing any fresh symptom of importance, died six months after the onset of his symptoms. A tumour was found in the middle lobe of the cerebellum. Dr. Handford, in his remarks on this case, refers especially to the absence of the knee-jerks. He states the different views which are held with reference to the production of the so-called tendon reactions and especially refers to the well-known views of Dr. Hughlings Jackson and Dr. Charlton Bastian with regard to the cerebellar influence. Dr. Bastian, in a paper read before the Royal Medical and Chirurgical Society some time ago, related the facts of several cases of total transverse lesion of the spinal cord, in which, in spite of marked sclerosis in the pyramidal tracts found post mortem, the knee-jerks remained absent, a condition which was referred to a cutting off of the cerebellar influence—the influence which, according to Dr. Hughlings Jackson's views, is responsible for the maintenance of muscular tone and the presence of tendon reactions. Dr. Handford regards his case as having almost the value of an experiment in showing the connexion of the knee-jerks and the cerebellum, and goes on to say that, according to widely accepted views, the pressure of the tumour on the medulla should have produced descending sclerosis of the crossed pyramidal tract and exaggerated knee-jerks. We venture to think that Dr. Handford rather overstates his case when he says that according to widely accepted views the pressure should have produced descending sclerosis in the pyramidal tracts. It may be granted that in the presence of such sclerosis many would be surprised if the knee-jerks were not exaggerated; but that is a very different statement. We regret with Dr. Handford that the cord was not examined, but it would be interesting to know if the pyramids at the point at which the pressure was exerted were altered in any way. If they were not, then it may with a considerable degree of probability be assumed that the tracts were not degenerated. There is no doubt, as Dr. Gowers states, that in many cases of cerebellar tumour the knee-jerk cannot be obtained and that in the same case it is at times present and at others cannot be elicited, and this fact may give a certain amount of support to Dr. Hughlings Jackson's theory. Even the facts of Dr. Handford's case suggest this variability in tendon reactions, for on one occasion ankle-clonus was elicited. This is certainly a curious and interesting fact, for it must be a very rare experience to find ankle-clonus present, a phenomenon which can usually only be evoked in an exaggerated state of the conditions on which the knee-jerk is supposed to depend, whilst the knee-jerk itself remains absent. The case, it will be seen, is one of unusual interest and suggestiveness, but observers will probably not agree as to the interpretation of its phenomena.

LONDON SANITARY ADMINISTRATION.

THE London Public Health Act provides that every medical officer of health elected or re-elected after Jan. 1st, 1891, shall receive a salary one-half of which is paid by the London County Council, and, as a result of the passing of that Act, a number of medical officers of health have been elected or re-elected under this condition. The last return issued by the London County Council showed that the Council now pays half the salary of seventeen medical officers, so that districts whose authorities have not taken this step are now paying, not only the full salary of their own medical officer, but a proportion of the salaries of seventeen others. The district of Poplar is now engaged in the election of a medical officer of health, but opinion is divided between the appointment of one or two medical officers. Until recently two such appointments existed; but Mr. F. M. Corner having resigned one, the question has arisen whether one medical officer should not now take charge of the whole area. The Local Government Board have expressed a strong opinion in favour of the latter arrangement, but the District Board have just resolved that this is not to the interest of the district. We think there is no doubt the Local Government Board will adhere to its decision, which is based upon the view that the district is likely to be better served by one officer giving his whole time than by two who only give a part.

THE DURHAM COUNTY COUNCIL.

A VARIETY of important health matters was dealt with at the recent quarterly meeting of the Durham County Council. Chief of all, the pollution of the river Wear at Durham was commented upon. This receives the sewage of Durham city, effluents from different trade processes—e.g., those at soap and carpet works—as well as the heaps of rubbish and waste gathered upon its banks from time to time. A deputation on this subject was refused to be received by the Local Government Board; but it was reported that the County Councils Association was drafting a Bill dealing with the general question of river pollution. In the meantime, the Council instructed their clerk to lodge a formal complaint against the Durham Town Council under Section 299 of the Public Health Act of 1875, the latter body having refused to take any steps to remedy the pollution of the river and to

demand a public inquiry into the matter. The Medical Officer of Health made a detailed report as to the grossly insanitary condition of many of the colliery villages in the county and as to the houses in regard to which closing orders under the Housing of the Working Classes Act of 1890 should issue. The chief sanitary defects found were dampness and dilapidation of houses, absent or defective spouting, improper and unsuitable privy accommodation, and inconvenient water distribution. The local authorities concerned have been instructed to put the law in force in respect of the various shortcomings reported upon. The vigour of the Durham County Council is much to be commended.

THE NEED OF A ROYAL COMMISSION ON INEBRIETY.

AT the close of Dr. Norman Kerr's concluding lecture on Inebriety and Medical Jurisprudence, Sir W. T. Charley, Q.C., D.C.L., late Common Serjeant, characterised the lecturer's exposition of the relations of inebriety to civil and criminal practice as "sound law." It was proposed by the learned gentleman and seconded by Mr. T. E. Ellis, solicitor: "That in the opinion of this meeting it is desirable that there should be an open inquiry, by Royal Commission or otherwise, into the whole question of dealing with inebriates."

THE NEW ISLINGTON INFIRMARY.

THIS question is still a burning one to the Islington Board of Guardians. The proposal for purchasing a site in Tollington Park, sanctioned by the Local Government Board, has been rejected by a majority of one. The cost of the workhouse on this site would have been £100,000—a large sum; but sometimes in a large and growing parish a bold outlay at first is true economy.

THE PUBLIC HEALTH ACT.

WE mentioned last week that the appeal in this case had been fixed for Monday last, on which day it was opened by counsel for the plaintiff local authority. The Court of Appeal, however, dismissed it without calling upon counsel for the respondents. It must, therefore, be taken now to be settled law that the permission of a given local authority is not necessary to the erection within its district by another authority of a hospital for infectious disease.

FOREIGN UNIVERSITY INTELLIGENCE.

Bordeaux.—Dr. Piéchaud has been appointed to the professorship of Clinical Surgery of Children.

Munich.—Dr. Richard Cramer has been recognised as *privat-docent* in Bacteriology.

Paris.—Dr. Terrier has been appointed Professor of Operative Medicine.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Heinrich Balmer of Dresden, at the age of forty-two; he was one of the first observers who made use of Koch's discovery of the tubercle bacillus for the purpose of diagnosing phthisis. He also published, in conjunction with Professor Fraentzel, some valuable researches on the use of creasote in laryngeal phthisis. —Dr. Cazeneuve, formerly Professor in the Lille Faculty of Medicine.—Dr. Schaffhausen, Honorary Professor of Physiology and General Pathology in the University of Bonn, who was a great authority on anthropological questions, at the age of seventy-six.—Dr. Samuel Logan, Emeritus Professor of Clinical Surgery in Tulane University, New Orleans.—Dr. K. F. von Willebrand, formerly Director of State Medicine in Finland, a post he held for twenty-five years, during which time he introduced many needful reforms; he was in his seventy-ninth year.

THE courses of lectures to be delivered, with one exception, at the Royal College of Physicians during the current year are as follow:—The Milroy lectures will be given at the Examination Hall, Victoria Embankment, by Dr. B. A. Whitelegge, his subject being "Changes of Type in Epidemic Diseases;" the dates of this series will be Feb. 21st, 23rd, 28th and March 2nd. The Goulstonian lectures will be delivered by Dr. W. D. Halliburton, who will discourse on "The Chemical Physiology of the Animal Cell," the dates being March 7th, 9th and 14th. The Lumleian lectures will be delivered by Dr. C. Theodore Williams, who will take for his subject "Aero-therapeutics in Lung Diseases," the dates fixed being March 16th, 21st and 23rd. The hour on each day will be 4 P.M.

AT the ordinary meeting of the members of the Royal Meteorological Society, to be held on Wednesday next at 25, Great George-street, Westminster, three interesting papers will be read—one by Mr. E. Mawley, on the Phenological Observations for 1892; another by Mr. W. Ellis, on the Relation between the Duration of Sunshine, the Amount of Cloud and the Height of the Barometer; and a third on Winter Temperatures on Mountain Summits, by Mr. W. P. Brown.

WE understand that the Special Commission appointed to inquire into the working of the provisions of the Contagious Diseases (Animals) Act, in so far as they relate to swine-fever, and to consider whether any more effective measures can be adopted for the prevention and extirpation of the plague, was fully appointed on Tuesday. The chairman of the Commission is Lord Edmond Fitzmaurice, and Mr. Fulford, of the Board of Agriculture, acts as secretary.

AT meetings of the Gresham University Commission held at Earl Cowper's residence, St. James's-square, on Thursday and Friday last week, evidence was given by Mr. E. H. Busk for the London University, by Mr. Baron Pollock as to legal education, and by Dr. Russell, of St. Bartholomew's Hospital, as to medical schools' laboratories.

AMONGST the distinguished guests who dined with H.R.H. the Prince of Wales at Marlborough House on Wednesday evening were Sir Andrew Clark, Bart., President of the Royal College of Physicians; Mr. Thomas Bryant, President of the Royal College of Surgeons; and Sir William Flower, President of the Zoological Society.

DR. T. P. ANDERSON STUART, Professor of Physiology and Dean of the Faculty of Medicine at the University of Sydney, has been appointed by the Governor to be Medical Adviser to the Government, in the place of Dr. F. Norton Manning, deceased.

MR. FREDK. A. GRAY, L.R.C.P., M.R.C.S., Medical Officer of Health to the Ottery St. Mary Local Board, Devon, died on Feb. 4th from blood poisoning consequent upon scratching his hand with a lancet whilst performing an operation for cancer.

THE Lord Chancellor, on the recommendation of the Duke of Westminster, Lord Lieutenant of the County of London, has appointed Mr. Theophilus Hoskin, M.R.C.S., L.R.C.P., of Amhurst-road, N.E., a justice of the peace for that county.

THE Naples Biological Scholarship, given from the common University Fund, has been awarded to Mr. Robert William Theodore Gunter, B.A., Demy of Magdalen College.

INJECTIONS AGAINST CHOLERA.

A LECTURE

BY M. HAFFKINE.

(*Specially reported for* THE LANCET.)

M. HAFFKINE, who has been on a visit to this country and has made some demonstrations at Netley Hospital of his method of inoculating a modified cholera virus as a protective against cholera, was, prior to his departure to India to study cholera in that country, invited to give at the Laboratories of the Royal College of Physicians and Surgeons a demonstration of his method of procedure.

On Wednesday last, Feb. 8th, a paper which he had prepared was read on his behalf by Dr. Armand Ruffer. There has been very considerable difficulty, arising from many causes, in placing the results of M. Haffkine's researches before the readers of THE LANCET. This difficulty is not in any way attributable to M. Haffkine, and has largely arisen from the excusably imperfect translation into English of his paper, which, however, has been carefully revised in the following report.

Dr. Pavy having briefly introduced M. Haffkine to the large audience, Dr. Ruffer proceeded to read the paper, which was as follows :—

"The discovery that microbes may change their characters and are capable of transformation by artificial means into vaccines of fixed and ascertained power is without doubt the greatest step which has been taken in medical science since disease-producing microbes were first studied. The task which then presented itself to investigators was that of discovering the germs of contagion which were recognised as being the cause of disease and of elaborating substances protective against them.

"M. Pasteur, after having discovered the first principles of this method by experiments in 'fowl cholera,' developed them greatly by his studies on anthrax ; he then turned his attention to hydrophobia, which, being a disease common to both men and animals, was an appropriate one in which to employ the methods previously applied to animals in the treatment of human diseases.

"The experience acquired in the endeavour to prevent hydrophobia by inoculation—the first human disease treated according to the new method—led to the formation of a perfectly clear programme, to be followed by investigators in the direction in question. It was shown that success was to be arrived at through the preparation of a virus gradually increasing in strength according to a fixed scale until it reached a degree of virulence above that of the ordinary virus, which would allow of the organism becoming accustomed to the poison with which it was infected. The *traitement intensif* of hydrophobia, based upon the acquisition of a virus of maximum strength, has shown the true *rôle* of the virus kept in a fixed state of 'exaltation' by specially appropriate experiments. The acquisition of virus of this kind and the establishment of a method suitable for keeping it in a fixed state are the ultimate aims of the research for a vaccine, since it is essential gradually to accustom the organism under treatment to this fixed virus. It is known that this task may be accomplished by the transference of infective organisms through a series of animals and that it is by cultivating it through a long series of such living animals that the microbe acquires the maximum of its infective power.

"In the case of cholera the first attempts towards the solution of this problem began with the infection of animals through the digestive canal. In this way the culture of the microbe took place in a part in which other microbes existed, which fact from the first rendered the means employed uncertain. The result of the introduction of a microbe into such parts depends upon the nature of the microbe. The purification of the microbe by intermediate artificial culture made in transmission between two animals is a source of diminution of virulence which counterbalances the 'exaltation' obtained. This explains how MM. Pfeiffer and Nocht in seeking to strengthen the cholera microbe by passing it alternately through animals and cultures were not able to obtain a microbe capable of overcoming the natural resistance of birds; and this is the reason why M. Roux and myself (M. Haffkine), in trying to transfer the intestinal contents from one animal directly to another, according to the method used by Gamaleia, have seen our series broken after the third or fourth transference.

"The idea which M. Gamaleia had in 1888 of cultivating the microbe in the thoracic cavity of animals gave rise to considerable hope, and at one time the task was regarded as accomplished. Unhappily this method, perfectly applicable to the microbe which M. Gamaleia used—the 'vibrio Metchnikovi'—was found to be defective when it was applied to the Asiatic cholera microbe, as M. Roux and myself ascertained in the series of trials which we have made in this direction. M. Hueppe in 1888 conceived the idea of producing infection of animals by the introduction of the cholera microbe into the peritoneal cavity ; this has since been revived by M. Pfeiffer, who stated that in the case of the cholera microbe a change was produced similar to that seen in diphtheria, tetanus and other diseases which are characterised by a local development of the living organism without an invasion of the blood or of the visceral organs. This change is simply that the infective agent itself disappears in the animal killed by the microbe ; and if it were possible to again find the remains of the culture injected, and to transfer them to a second animal, this second animal would retain no further trace of the microbes, and the further passage would be interrupted. In the work carried out in the Pasteur Institute with regard to inoculation against Asiatic cholera the infection of the animal by the peritoneal cavity was chosen as the starting point, from which point a method has been worked out which permits of the culture of the microbe in the animal organism in a state of purity during an infinite series of generations, the exaltation of it to an ascertained maximum strength, and the possibility of keeping it at the same degree of virulence for an unlimited period of time. This method is exemplified by three series of experiments which were the subject of a publication in the *Comptes-rendus de la Société de Biologie* of Paris. These are as follows :—

"(*a*) Giving the first animal a dose larger than the fatal dose and killing this animal in a sufficiently short space of time to be able easily to find the more resisting microbes.

"(*b*) Exposing the discharge taken from the peritoneal cavity to the air for several hours.

"(*c*) Then transferring this discharge to the next animal, of large or small size, according to the concentration of the discharge.

'The method has been verified by other experimenters with satisfactory results. The properties of the virus which is obtained in this way may be ascertained by observing that upon intra-peritoneal inoculation it always kills guinea-pigs in about eight hours, and the fatal dose for this animal is reduced to about twenty times less than that which it would have been necessary to administer for the microbe with which the experiment began. With the same inoculation it kills rabbits and pigeons by a dose which would have been harmless at the beginning of the infection experiments. It kills guinea-pigs when it is injected into the muscular tissue. Inoculation under the skin causes the formation of a large swelling, which produces sloughing of that part of the skin and the formation of a gaping wound which is curable in two or three weeks. This is the basis of my researches.

"The virus when injected under the skin of a healthy animal gives the creature, after several days, immunity from the poison of cholera, however it may be conveyed to it. If an attempt be made to infect an animal which has been so treated, either by Koch's method through the alimentary canal, by neutralisation of the gastric juice and the injection of opium into the peritoneum, by the introduction of the microbe into the intestines by the method of Nicati and Rietsch, through the muscles, or by (the most fatal of all) intra-peritoneal injection, the animal resists, whilst the control animals are killed. Inoculation of animals against cholera in this manner has been definitely established. But the operation thus described cannot be applied to man. The wound following on the injection under the skin is alarming to look at, and is in all probability painful. Besides, although it does not in itself present any danger to the health of the individual, it subjects him to all the dangers arising from an open wound. By growing it at a temperature of 39° C. and in an atmosphere freely exposed to the air this corrosive action is removed from the microbe. Under these conditions the first crop of the cholera microbes die rapidly, say in from two to three days ; but others are sown again in new centres immediately before the death of the first. After a series of generations of

this kind a culture is obtained which, if injected under the skin of animals even in very large doses, produces merely a temporary œdema and so prepares the inoculated organism that the injection of this modified virus of fixed exalted vaccine produces only a local reaction of the slightest kind. Thus the method of inoculation deals with two vaccines—a mild one obtained by weakening the 'fixed virus,' and a 'strengthened vaccine' which is really the exalted virus itself. The reason an ordinary virus is not used to obtain the weakened vaccine, but one the nature of which has been previously ascertained in the laboratory, is that the viruses in their natural state, especially when they have reached a saprophytic stage of development, present such great differences that there is no certainty in their application. This recalls to mind the story of inoculation for small-pox. The mildness or the severity of an infection does not depend merely on the real strength of the contagious substance, but upon the resistance of the individual from whom the poison has been taken. Thus in taking vaccine for use as vaccine lymph from a subject slightly affected a very weak substance was sometimes obtained incapable of causing protection, but still able to kill individuals less resistant. The great point of Jenner's discovery lay in the fact that it indicated a substance fixed by successive passages through animals at a virulence above that which is fatal to human beings. Another example is given in the old method of inoculation against anthrax by Toussaint, the first of its kind, which has had to give way to the method of M. Pasteur simply because Pasteur's method was based upon a virus of fixed strength and produced results with certainty, conditions which were wanting in the former method. In 1885 Dr. Ferran of Barcelona, with the object of preserving the population of the Peninsula from cholera, injected his patients with the ordinary virus taken from dead bodies and cultivated in the laboratory. The statistics of the results obtained by him were so uncertain that it could not be recommended. The fundamental feature of the Pasteurian method was the possibility of treating the animal organism by vaccines of an absolutely fixed nature by means of special operations. That was the whole secret and the sole guarantee of the success of its application.

"The method of inoculation against cholera worked out by experiments on guinea-pigs was afterwards tried upon rabbits and pigeons before it was applied to man. These animals were chosen in order to secure very differently organised subjects, and to obtain the power of generalising the conclusions before extending the experiments to human beings. The same results were obtained on all these animals and it was decided to apply the operation to man. The symptoms produced by this operation have been described in several scientific publications. The method has been tried at Paris, at Cherbourg and at Moscow on about fifty persons of both sexes, between the ages of nineteen and sixty-three, of French, Swiss, Russian, English and American nationalities. [M. Haffkine was the first to be inoculated with his own virus. He has undergone the operation three times.]

"In all cases the method has proved to be absolutely harmless to health. The symptoms consisted merely of a rise of temperature, a local sensitiveness at the place of inoculation and the formation of a temporary swelling at the same place. The symptoms appear about two or three hours after inoculation—viz., fever and general indisposition, which disappear in from twenty-four to thirty-six hours, and sensitiveness and œdema lasting three or four days. The symptoms following the second inoculation are usually more marked but of shorter duration; the whole giving rise to a feeling as of a bad cold in the head, lasting from one to two days. The microbes which are introduced under the skin do not propagate, but die and disappear after a certain time. It is the substances which they contain which being set free on the death of the animals act upon the animal organism and confer immunity upon it. It is found that the same result can be obtained if the microbes be killed before inoculation. Thus vaccines have been preserved in weak solutions of carbolic acid in which the microbes die at the end of several hours, and the vaccine preserved in this way has been found to be still efficacious six months after its preparation. There is evidently considerable advantage in preserving the microbes in this way. It enables them to be used by persons having no bacteriological training, and the absence of living germs makes the vaccines perfectly safe. The carbolic acid that they contain preserves them against any invasion of other microbes, and as they can be kept for several months their preparation may be carried out at a central laboratory whence the vaccine *ampoules* can be sent out to operators. But it is probable that the immunity given by these preserved vaccines does not equal in persistency that produced by living germs, and as the method is not yet supported by verified statistics it is better that inoculations should be made as much as possible with living virus, so as to secure the most reliable results.

"As to the length of time that immunity so produced will last, there were no animals at the laboratory of the Pasteur Institute that had been inoculated for a period longer than four months and a half. At the end of that time their immunity was found to be perfect and was likely to last much longer. The experiments upon man, added to the hundreds of experiments which had been made upon animals, testify to the absolutely harmless nature of these operations, and there is no difficulty in proving their efficacy by experiment, independently of the species of animal which may be employed.

"On Wednesday last Dr. Woodhead inoculated six animals with the first vaccine. The second inoculation was made two days ago. Yesterday, in presence of Dr. Woodhead and several other gentlemen, these six animals were inoculated with 6 c.c. of virus of the cholera culture into the peritoneum. At the same time six other animals, which had not been inoculated before, were injected with half the dose which the first set of animals had received. The result is that the inoculated animals are to-day perfectly well. To any one accustomed to the clinical appearance of guinea-pigs after inoculation the animals you see before you have a perfectly normal appearance. On the other hand, of the six animals which were inoculated with half of the dose, two are already dead, two are very ill, and there is not the slightest doubt that the two others will be dead to-morrow.

"It is unnecessary to say that we cannot perform a similar experiment on man, although this would be the only means by which a definite experimental demonstration could be given. This being the case, evidently the objection might be raised that, although this vaccination renders guinea-pigs, rabbits and pigeons very resistant, yet it might be possible that man might escape this law. That, indeed, is not impossible, and—we lay stress, much stress, upon the fact—it is by experiment that our method must be established. It is by direct application and experiment that we must verify to ourselves and others the true value of the means extolled. Yet, after the experience already acquired, we think there is little probability that a negative result will be obtained. The difference between a mammal like the rabbit or the guinea-pig and a bird like the pigeon, from an anatomical and physiological point of view, is much greater than between rodents and man. Hence, when the same law is proved to exist amongst animals so different, there is little probability that man is not also subject to it. The symptoms following on inoculation of our vaccines are analogous in all the animals experimented on, including man. The same changes of temperature take place in all. In the animals which have been rendered resistant against cholera immunity is evidenced by the fact that every subcutaneous inoculation, made even with weakened virus, induces a rise of temperature greater than the preceding. The same thing takes place in man. We hope that the parallel will extend to this modification of the organism which produces the resistance against an infective agent. But the sole and definitive confirmation of this hope can be obtained only by the application of the method where cholera makes ravages amongst the human race."

Guinea-pigs were exhibited to show the effects on the animals when inoculated under the skin and when inoculated into the peritoneal cavity. The difference between the effects of the strong virus and the weak virus was also demonstrated. One of the animals was inoculated on Saturday last with one-tenth part of the tube of the weak vaccine. If they would examine it, they would find that it had, at the point of inoculation, a small localised œdema, but there was nothing resembling abscess or anything of the sort. It would disappear in a very few days. On the other hand, another animal was inoculated on Saturday at the same time, subcutaneously also, with the stronger vaccine, and they found that a very definite little abscess was formed, that the skin was necrosed over its surface, and that it would take some time to heal. Another animal inoculated with the same quantity of virus into the peritoneal cavity died within from sixteen to twenty-four hours. The experiment on the one which had re-

ceived the weak vaccine would be continued. The result would be that when it was inoculated again the abscess as shown in the other animal would not form. That was the reason why these two vaccines were used in inoculating man. The first produced a slight œdema, but it did not produce an abscess, and when they used the strong virus after the weak one, instead of producing an abscess, they simply got a small swelling which disappeared in a few days. Since M. Haffkine had been in England two gentlemen, one of whom had proceeded into a dangerous part of Persia, the other being a medical officer of health near London, had been inoculated by him. The following is a clinical report on one of these gentlemen, taken by his son, who is a medical man and a pathologist. The notes were as follows:—"The first inoculation was made on Feb. 4th, 1893. The gentleman in question is fifty-six years old. Temperature at the time of inoculation 97° F. under the axilla. After three hours slight lassitude set in. At 5 P.M. slight pain in the side; temperature 98° F. in the mouth; seat of inoculation red, indurated, two inches by two. At 7 P.M., temperature 99° F. At 9 P.M. lassitude increased; took a slight dinner. The son notices that his father looks markedly febrile, feels tired and goes to bed; temperature 99°; pulse increased to about 80; feels slightly cold and there is slight pain in the limbs. At 10.30 slept well since going to bed; temperature 99°; respiration above normal. Soon went to sleep again and passed very good night. Feb. 6th, 9 A.M., temperature 98°; appetite not so good as usual; was quite able to resume usual duties; symptoms by no means severe; the most remarkable phenomena are the onset and the feeling of lassitude and sleepiness. At 11.40, temperature 99°. Feb. 6th, morning temperature 98°, evening 97°. Feb. 8th, morning temperature 97°; evening 97·5°. Feb. 8th, morning temperature 97·5°. The second inoculation was made to-day." The notes in the case of the other gentleman had unfortunately been lost, but practically the same result ensued. This gentleman summed up his experience by declaring that he would rather be inoculated against cholera than be vaccinated again. M. Haffkine made a post-mortem examination of one of these inoculated animals that had succumbed to the intraperitoneal injection of the exalted virus, and the pathological appearances as shown in guinea-pigs were demonstrated. There was a red injected spot showing that a portion of the inoculation had entered the muscular tissue. The abdomen was distinctly distended and contained serous fluid. The bowels were red and injected much more than is usual in guinea-pigs. All the other organs were normal. On the liver, between the diaphragm and that organ, slight traces of lymph could be seen. The spleen, if the animal lives for a certain length of time, is slightly enlarged; in this case the spleen was distinctly enlarged, the animal having lived twenty-four hours. The cultures from which all these experiments were made were from a case of cholera which occurred in Cochin China, and were forwarded direct to M. Haffkine.

M. Haffkine then made a cover-glass preparation of the œdematous fluid from the peritoneal cavity to show that it contained a pure culture of the cholera bacillus, and this was examined with much interest by many who were present.

Dr. Pavy at the termination of the proceedings expressed the thanks of the audience to M. Haffkine for the demonstration, characterising it as an act of courtesy and kindness in him to remain in England solely for the purpose of giving this demonstration. It was sincerely to be hoped that the promise afforded by his observations which were now being conducted would be realised, and that we might have an illustration of the power of knowledge in the bringing under subjection of one of those diseases which formed a great terror to mankind. Turning to M. Haffkine, he said: "We desire to express our gratitude to you for having remained here in England to afford us an opportunity of witnessing this demonstration, and I would ask Dr. Ruffer, who has served us so well as a medium between yourself and us, to play the opposite part and serve as a medium between us and M. Haffkine by conveying to him the thanks of the meeting." This Dr. Ruffer did in felicitous terms, and the demonstration then concluded.

LITERARY INTELLIGENCE. — Mr. H. K. Lewis announces the issue at an early date of a second edition of Dr. Radcliffe Crocker's work on Diseases of the Skin, which has been greatly enlarged and brought up to date. A new volume of Lewis's Practical Series is also nearly ready, and is entitled "Public Health Laboratory Work," by H. R. Kenwood, M.B., D.P.H.

The Lancet Special Commission
ON
SEAMEN'S DIETARIES.

CONSIDERABLE attention has been drawn during the past three or four months to the food of British merchant seamen and a committee consisting of the representatives of many of the shipowners' associations has been investigating the question with the object of ascertaining in what respects a revision of the scales now in vogue is advisable. We have independently made many inquiries from representative seamen themselves, and have thought it well to lay their views before the profession when comparing the present dietaries and that proposed for future adoption in the merchant service with some dietaries laid down for representative bodies of landsmen, so that the question may be studied from as many sides as possible. We may say at once that very few complaints have been made to us as to the quality of the articles supplied to sailors, with the exception of tea and coffee, which were often stated to be of very inferior quality. There is an almost unanimous opinion that the quality of the staple articles of beef, pork, bread and flour has immensely improved in late years. The quantities fixed by the minimum scale are said to be not too great for protracted and arduous work, and to be far too small in the special long voyage sailing ship scale. It is generally supposed that the Board of Trade fixes the amount and examines into the quality of the food supplied to the sailor, but this is not the case, for in the form of agreement issued by the Board of Trade no detailed scheme of dieting is given: there is only found a skeleton scale of the provisions to be allowed and served out to the men during the voyage for which the agreement is made.

This skeleton scale (Table I.) must be filled in before the agreement is signed, and the quantity and quality of provisions supplied are therefore solely a matter of contract between the owner and the crew. But practically a regular scale is inserted into the articles, and when the sailor signs these with the "usual" diet scale filled in, he clearly understands by that term that the minimum scale of 1854 (Table II.) is intended, and this is deemed a sufficient one by the authorities. It is stated by the shipowners that this scale is rarely adhered to, and this is quite true in many cases, but from our inquiries amongst the sailors it is clear that it is sometimes most rigidly followed; and it is obvious that if it is compulsorily adhered to nothing in addition can be insisted on, and that no objection can be taken by the sailor after he has signed articles. We must therefore take it into consideration as being the actual basis on which alone the seaman can insist, and which in many ships is all that he will get during a voyage.

The absence of any preserved meats or vegetables and the monotony of a diet practically limited to bread, salt beef and pork, with soup once and dough three times a week, at once shows that such a scale is only fitted for short voyages or for voyages in which the ship is not too long from port to port where the substitutes of fresh meat and vegetables can be often made use of. The supplying of these substitutes should not be optional at the master's discretion; they should be compulsory whenever the ship arrived at a port. The shipowners clearly recognise that this diet is deficient in fresh provisions, for a special long-voyage scale (Table III.) is also in use, and in this preserved meats, potatoes and vegetables, raisins, preserves and molasses are included. This scale is agreed to by the sailor also when he signs his agreement, and he is quite conversant with its particulars before he starts on a long voyage.

A comparison of the two dietaries shows that in the long voyage scale the seaman loses per week 1¾ lb. of bread, 2½ lb. of beef and 1¾ lb. of pork, and gains 2 lb. of preserved meat, a quarter of a pint of soup and half a pound of flour. The preserved potatoes (6 oz.), preserved vegetables (1 lb.), coffee (1½ oz.), raisins (3 oz.), suet (2 oz.), butter (½ oz.), preserves (1 lb.) and molasses (half a pint), although excellent varieties in a dietary and most useful as aids in the prevention of scurvy, can hardly be considered as efficient substitutes for the above-mentioned loss of the more nutritious articles—biscuits, beef and pork. In fact, instead of being called substitutes, all these antiscorbutics should

TABLE I.

Scale of Provisions to be allowed and served out to the Crew during the Voyage, in addition to the daily issue of Lime and Lemon Juice and Sugar or other antiscorbutics in any case required by 30th and 31st Vict., c. 124, s. 4.

—	Bread.	Beef.	Pork.	Tinned meats.	Soup and bouilli.	Preserved potatoes.	Compressed or preserved vegetables.	Flour.	Peas.	Rice.	Tea.	Coffee.	Sugar.	Molasses.	Water.
	lb.	lb.	lb.	lb.	pint.	lb.	lb.	lb.	pint.	lb.	oz.	oz.	oz.	oz.	qts.
Sunday															
Monday															
Tuesday															
Wednesday															
Thursday															
Friday															
Saturday															

Note.—In any case an equal quantity of fresh meat or fresh vegetables may, at the option of the master, be served out in lieu of the salted or tinned meats or preserved or compressed vegetables named in the above scale.

SUBSTITUTES.

TABLE II.

Minimum Scale, 1854.

—	Bread.	Beef.	Pork.	—	Soup.	—	—	Flour.	Peas.	Rice.	Tea.	Coffee.	Sugar.	—	—	—	—	—	—	Water.
	lb.	lb.	lb.		lb.			oz.	pint.	lb.	oz.	oz.	oz.							qts.
Sunday	1	½	—	—	½	—	—	8	—	—	⅛	½	2	—	—	—	—	—	—	3
Monday	1	—	1½	—	—	—	—	—	½	—	⅛	½	2	—	—	—	—	—	—	3
Tuesday	1	1½	—	—	—	—	—	8	—	—	⅛	½	2	—	—	—	—	—	—	3
Wednesday	1	—	1½	—	—	—	—	—	½	—	⅛	½	2	—	—	—	—	—	—	3
Thursday	1	1½	—	—	—	—	—	8	—	—	⅛	½	2	—	—	—	—	—	—	3
Friday	1	—	1½	—	—	—	—	—	½	—	⅛	½	2	—	—	—	—	—	—	3
Saturday	1	1½	—	—	—	—	—	—	—	½	⅛	½	2	—	—	—	—	—	—	3

Additions or substitutes at the master's option:—2 lb. fresh meat, ½ lb. vegetables per man daily in harbour.
Spirits are issued at the master's discretion when necessary.

TABLE III.

Special Long Voyage Sailing Ship Scale.

—	Bread.	Beef.	Pork.	Preserved meats.	Soup.	Preserved potatoes.	Preserved vegetables.	Flour.	Peas.	Rice.	Tea.	Coffee.	Sugar.	Raisins.	Suet.	Butter.	Preserves.	Molasses.	Spirits.	Water.
	lb.	lb.	lb.	lb.	lb.	oz.	lb.	oz.	pt.	lb.	oz.	oz.	oz.	oz.	oz.	lb.	lb.	pt.	pt.	qts.
Sunday	¾	1	—	—	—	2	—	8	—	— Oatmeal ½	—	—	—	3	2	—	—	—	—	4
Monday	¾	—	¾	—	—	—	—	—	½	½	—	—	—	—	—	—	—	—	—	4
Tuesday	¾	½	—	½	—	—	½	—	—	—	—	—	—	—	—	—	—	—	—	4
Wednesday	¾	—	½	½	½	2	—	8	—	½ Oatmeal ½	—	—	—	—	—	—	—	—	—	4
Thursday	¾	½	—	½	—	—	½	—	—		—	—	—	—	—	—	—	—	—	4
Friday	¾	½	—	½	½	2	—	8	—	—	—	—	—	—	—	—	—	—	—	4
Saturday	¾	—	¾	—	—	—	—	8	½	½	1½	5⅓	14	—	—	½	1	½	—	4

Calavances (Italian beans) 6-8 oz. per man weekly, used on days when pork is served out.
Baking powder, mustard, pepper, vinegar and pickles are put on board for the use of the crew.
The above scale is for sea use only. When in port fresh beef, vegetables and potatoes may be procured daily, when biscuits, tea, coffee, sugar daily and a quarter of a pound of flour and three ounces of dried fruit per man once weekly, are the only articles which are to be used from sea stock.
Rum to be given at captain's discretion.

have been made compulsory additions to the minimum scale of 1854 whenever the ship is destined for a long voyage, for three-quarters of a pound of bread and from three-quarters of a pound to a pound of meat are too little for a daily allowance for men doing such arduous work as merchant seamen. We append the navy scale (Table IV.) for comparison, as the one on which the committee have modelled their proposed scale for future use :—

TABLE IV.

Scale of Victualling in Her Majesty's Navy.

	Bread.	Beef.	Pork.	Preserved meats.	Soup and bouilli.	Preserved potatoes.	Preserved vegetables.	Flour.	Peas.	Rice.	Tea.	Coffee.	Sugar.	Raisins.	Suet.	Butter.	Preserves.	Molasses.	Spirits.	Water.
	lb.	lb.	lb.	lb.	lb.	oz	lb.	oz.	pt.	lb.	oz.	oz	oz.	oz.	oz.	lb.	lb.	pt.	pt.	qts.
Sunday	1	1	—	—	—	—	—	13	—	—	½	1	2	1½	¾	—	—	—	½	3
Monday	1	—	1	—	—	—	—	4	½	—	½	1	2	—	—	—	—	—	½	3
Tuesday	1	—	—	¾	—	4	—	4	—	—	½	1	2	—	—	—	—	—	½	3
Wednesday	1	—	1	—	—	—	—	4	½	—	½	1	2	—	—	—	—	—	½	3
Thursday	1	—	—	¾	—	4	—	4	—	—	½	1	2	—	—	—	—	—	½	3
Friday	1	—	1	—	—	—	—	4	½	—	½	1	2	—	—	—	—	—	½	3
Saturday	1	—	—	¾	—	—	—	4	—	½	½	1	2	1½	—	—	—	—	½	3

Celery seed, ½ oz. to 6 lb.

Oatmeal 3 oz., mustard ½ oz., pepper ½ oz., vinegar ¼ pint weekly. 1 lb. Fresh meat and ½ lb. vegetables to be issued in port whenever procurable. Supernumeraries ¾ of scale allowance.

The amount of bread in both the 1854 scale and the navy scale are the same, but in the former there are thirteen ounces less flour per week, so that the hydrocarbons are seriously diminished therein. In the navy only 6¼ lb. of meat are allowed per man (but of this 2¼ lb. are preserved, and this is estimated to have an increased dietetic value in the proportion of 4 to 3 over salt meat and 4 to 2 over fresh meat) against 9½ lb. in the usual merchant shipping scale. But coffee is increased, and raisins, suet and oatmeal are introduced, so that the sailor in the navy has a much less monotonous course of food and undoubtedly the average cooking of his meals is much superior; and although he is only allowed one pound of fresh meat per diem when in port against two pounds allowed to the merchant seaman, yet we must remember that the ships in the navy generally spend a much longer period in port than a merchantman, and we are told that the work is relatively per man much less in the navy. The quantities of meat in the long voyage scale are also larger than in the navy, but the bread and flour are less and the opportunities for obtaining fresh meat in port must be very small and the fatigues of the voyage must be much greater.

The replies of sailors to further inquiries which we made show that in the larger companies the food is not only sufficient in quantity, but that it is always well cooked. The scale is not adhered to either as to quantity or variety. As examples, we may give some particulars of the daily food which were communicated to us by reliable seamen who had worked on passenger-carrying and non-passenger-carrying ships, and which were considered by them to be most satisfactory.

A passenger ship belonging to a well-known firm trading from London.

7.30 A.M.—Breakfast, consisting of fresh beef cooked in a pot with potatoes and onions, occasionally steak instead, coffee, and as much bread-and-butter as each man can eat.

12 NOON.—Meat, baked or boiled, nearly always fresh, with potatoes; pudding twice a week, plum duff; water to drink.

5 or 6 P.M.—Tea, bread-and-butter; cold meat, if any was left over from dinner; as much bread-and-butter as they like.

Coffee at 5 A.M. for those on morning watch.

II. *A passenger ship belonging to a firm trading from Liverpool.*

8 A.M.—Potato hash, with fresh or salt meat; coffee, biscuits; an allowance of soft bread for week, which is ample.

12 NOON.—Fresh meat, vegetable soup; pudding, always plum duff.

5 P.M.—Coffee, bread-and-butter.

All ships give coffee at 5 A.M. for those on the middle and morning watches.

In these companies the scale is not adhered to, and the men may eat as much as they can.

III. *A coasting vessel trading from Cardiff to Spain.*

Food good all through and of same quality as II.

IV. *A large trading vessel belonging to Liverpool carrying cargo only.*

5 A.M.—Coffee, sea biscuits.

8 A.M.—Coffee, sea biscuits; sometimes salt beef, potato hash or pork, if there was any left over from last night's dinner. Pork days occurred three times a week. No butter.

11.30, 12.—Beef (tinned) or salt pork; 1½ lb. of meat allowed per man; meat weighed uncooked. Flour allowed three times a week on beef days to make a dumpling of and on pork days pea-soup.

5.P.M.—Tea, ¼ oz. per man; biscuits; 1 lb. of biscuits allowed per man daily.

Rum is served out on occasions when a man gets very wet or has had extra work.

From these various statements it is obvious that the plan of victualling ships in actual working is far from uniform, and that the lines which give a superior diet to that fixed in ordinary scales are generally well known to the seaman on signing articles. Any three or more of a crew can complain to a British consul, or to other officials, if the provisions or water are at any time of bad quality, unfit for use, or deficient in quantity, at the risk of losing a week's wages, but this inquiry usually can only be made too late, though if made in port it will result in the substitution of other provisions if the complaint be substantiated. If the provisions are found during the voyage to be bad in quality or insufficient in quantity the seamen can obtain a pecuniary compensation of from fourpence to one shilling per day upon sufficient proof and if no modifying circumstances can be laid before the court before which the case is tried. It is obvious that such an appeal as this for compensation is worthless so far as the restitution of men's health is concerned, and this must give way under an insufficient allowance of food, or if it be of bad quality. Some more deterrent penalty should be found for those extreme cases which are occasionally said to have arisen, mainly in prolonged voyages, and which are alleged to be quite independent of unavoidable causes. From the commencement of the present year the responsibility of seeing that the food is of proper quality has been removed from the shipowner to the Board of Trade, whose officers must now inspect the food before the vessel departs on her voyage, and this is a most valuable improvement and should be welcomed by both owner and sailor. If the food, although of good quality when put on board, deteriorates from bad stowage or from damage to the casks, and this is not properly rectified during the voyage, as is asserted to be not infrequent, the responsibility must lie upon the master of the ship; for these cannot fairly be considered as unavoidable. The committee of shipowners appreciate

that some alteration must be made in both the minimum scale of 1854 and in the long voyage scale, and have suggested a new minimum scale (Table V.), and it is in many points a great improvement on the present minimum scale:—over the decline in the number of cases of scurvy; but to the improved food must also be largely attributed this welcome improvement. The Board of Trade in assuming the responsibility of inspecting the food has done wisely, and has taken

TABLE V.

New Minimum Scale.

	Bread.	Beef.	Pork.	Preserved meats.	Preserved potatoes.	Preserved vegetables.	Flour.	Peas.	Calavances.	Rice.	Oatmeal.	Tea.	Coffee beans (roasted).	Sugar.	Dried fruit.	Butter.	Marmalade and jam.	Molasses.	Water.
	lb.	lb.	lb.	lb.	oz.	lb.	lb.	pt.	pt.	lb.	lb.	oz.	oz.	oz.	oz.	lb.	lb.	pt.	qts.
Sunday	1	½	—	¾	—	—	½	—	—	—	—	—	—	—	—	—	—	—	4
Monday	1	—	1	—	2	—	—	½	½	—	—	—	—	—	—	—	—	—	4
Tuesday	1	1	—	—	—	—	½	—	—	½	—	—	—	—	—	—	—	—	4
Wednesday	1	—	—	¾	—	½	½	—	—	—	½	—	—	—	—	—	—	—	4
Thursday	1	—	1	—	2	—	—	½	½	—	—	—	—	—	—	—	—	—	4
Friday	1	—	—	¾	—	½	—	—	—	—	—	Weekly stores							4
Saturday	1	1	—	—	2	—	½	—	—	½	½								4
Weekly	7	2½	2	2½	6	½	2	½	½	½	½	1¾	3½	14	3	½	1	½	28

Mustard, ¼ oz.; pepper, ¼ oz.; chicory, 1 oz.; vinegar or pickles, ½ pint weekly.
Fresh potatoes and/or vegetables, 1 lb. daily (as long as supply lasts) may be issued instead of preserved potatoes and vegetables.
Within the tropics 1½ lb. marmalade may be issued weekly instead of ½ lb. butter and 1 lb. marmalade. In cold weather ¾ lb. of butter may be issued instead of ½ lb. butter and 1 lb. marmalade.
Bread to be issued as required, enough without waste. Stokehold hands to receive oatmeal and 1 quart of water extra daily while under steam.

Substitutes and Equivalents.

Fresh meat	1½ lb.	are to be considered equal to each other.
Salt meat	1 lb.	
Preserved meat	¾ lb.	
Salt fish	1½ lb.	
Coffee	½ oz.	do. do.
Cocoa	1 oz.	
Tea	¼ oz.	
Biscuit	1 lb.	do. do.
Flour	1 lb.	
Rice	1 lb.	

1	Split peas	¾ pt.	when issued with meat rations.
	Flour	¾ lb.	
	Calavances	¾ pt.	
	Rice	¾ lb.	
2	Vegetables (fresh)	½ lb.	
	Compressed mixed vegetables	1 oz.	
	Preserved potato	2 oz.	
3	Mustard	½ oz.	
	Curry powder	¼ oz.	

In port, 1½ lb. fresh meat and ½ lb. fresh vegetables in lieu of salt meat and preserved vegetables whenever procurable; bread, flour and weekly stores as per scale.

The amount of beef, pork and preserved meats per week is half a pound in excess of the navy scale (but we do not agree with the owners in believing that less than one pound and a quarter per diem is sufficient for hard prolonged work and this quantity is only given on Sundays); the flour is only a quarter of a pound less, and in port the merchant seaman is to have 1½ lb. of fresh meat, whilst the sailor in the navy only gets 1 lb. per diem. In the table of equivalents there is one item to which we must take exception. We do not believe, and are surprised to see the statement, that 1½ lb. of salt fish can be considered in nutritive value equal to either three-quarters of a pound of preserved meat, 1 lb. of salt meat or 1½ lb. of fresh meat. Salt fish should not be admitted as a substitute into the sailor's dietary, for it is quite impossible to assess its nutritive value, and the placing of it among equivalents may lead to a most injudicious use thereof, unless the frequency of its being served out is strictly limited. As a change in diet it may be acceptable, but then it should only be given on one day in the week as per bill of fare below, or even less often, for although a dietary may be fixed such a bill of fare cannot be made compulsory. The committee further suggest that the weekly food should be arranged into a bill of fare as follows, and if the suggested minimum scale contained the same amount of meat as the present scale of 1854 and half a pound more bread or flour daily, and were made compulsory, if the inspection were thorough and a capable cook were engaged on board each vessel, Jack's future life, so far as food is concerned, would hardly leave him room for a grumble.

Even taking into full consideration the new hydro-carbons introduced into the proposed minimum scale, it is obvious that the amount of bread and flour, taken together, is too little for the laborious work of a sailor, and should be increased. Scurvy is rarely reported now to the Board of Trade—viz., about twenty outbreaks a year,—and at the Seamen's Hospital only three or four cases are now admitted per annum. The more rapid passages of steamships and the fewer sailing vessels engaged in long voyages must have exerted a great influence an additional step by breaking away from the old tradition which laid down that investigating the food-supply of the seaman was no part of its duty, but that this was simply a matter of contract between the shipowner and the members of the crew. It should go further and fix a compulsory minimum scale, and ascertain that there are sufficient stores on board for the contemplated voyage, with a proper margin if this should be accidentally prolonged. Inspection by officials under Government authority must be much more satisfactory to both sailors and owners than the present method of survey by the ship's steward or butcher, and must make the persons who contract for the supply of provisions exercise greater care as to their quality and package. The large, well-managed

Bill of Fare.

	Breakfast.	Dinner.	Supper.
Sunday	Dry hash, soft bread.	Sea pie and plum duff.	Cold beef and pickles.
Monday	Irish stew.	Pea soup, pork, calavances.	Dry hash.
Tuesday	Rice and molasses.	Salt beef, potatoes, plum duff.	Cold meat and pickles.
Wednesday	Porridge and molasses.	Sea pie.	Potato stew.
Thursday	Bread scowse.	Pea soup, pork, calavances.	Cold pork and pickles.
Friday	Dry hash.	Preserved meat, or salt fish and potatoes.	Twice "laid" of fish.
Saturday	Porridge and molasses.	Salt beef, rice and molasses.	Cold meat and pickles.
—	Coffee, biscuit, butter and marmalade daily.	Biscuits and switchel daily.	Tea, biscuits, butter and marmalade daily.

lines, as represented on the shipowners' committee, feed their crews admirably, and many of them even without limit as to bread and meat; but the temptation to the ship captains, in many old and practically obsolete sailing vessels engaged on unduly long voyages, to consider the possibility of making a profit rather than the health of the crew must still occasionally prevail, and it is in view of the occurrence of such cases that a compulsory minimum is required.

The cooking at sea, except in the navy and in the larger passenger lines, is often deplorable, and we are glad to see that it is not only proposed that schools of nautical cookery should be established in our principal seaports, but that certificates of competency should be awarded to such cooks as pass a given standard which, we trust, will be a practical one. Shipowners would of course give such men a preference when seeking employment. The Glasgow school has evidently been doing good work for some time, and others exist in Liverpool and at the People's Palace, London; but there is room for many more. A test such as the preparation of the daily bill of fare, proposed by the shipowners, with only the command of the limited appliances for cooking found in a ship's galley, and with only the weekly stores permitted in the new minimum scale, would be of far more value in the public estimation than the preparation of the lunch served by a practical demonstrator of the Glasgow School of Nautical Cookery at a well-known City restaurant, even though that *menu* only embraced sea pie, made in three "decks," or preserved meat and potatoes as invariably supplied at least once and sometimes twice per week at sea, boiled salt beef, boiled pork (fresh and fourteen months old), pea-soup, boiled salt cod and boiled salt haddock, plum duff, ground rice, pudding and biscuits. The seaman's dinner consists of only one *pièce de résistance* and is cooked in the galley, and does not include more than one, or at most two, of the dishes put before the shipowners' committee and which met with every sign of favour, as we can well understand, when they were cooked by an expert in the kitchen of one of our best City restaurants.

As a matter of comparison we have made many inquiries into the food of those employed on shore. We first give the daily diet of the British soldier on home service which a committee in 1889 considered an ample one, and which is partly a free ration supplied by the Government and partly a "grocery ration" for which 3½*d.* per diem is deducted from the soldier's pay. It consists of ¾ lb. of meat, of which one-fifth is bone, 1½ lb. of bread, 1 lb. of potatoes, ½ lb. of other vegetables, 3½ oz. of milk, 1$\frac{3}{16}$ oz. of sugar, $\frac{7}{16}$ oz. of coffee, $\frac{3}{16}$ oz. of tea. The meat is less than in the sailor's long voyage scale, much less than in the 1854 minimum scale, and less than in the proposed new minimum scale (except on Fridays, on which day the new diet will be far from liberal), but there is an increase of ½ lb. in bread per day, and a considerably larger amount of potatoes and vegetables than in any of the scales for sailors. On active service, which is perhaps more comparable with the laborious duties of sailors on board ship, the soldier's meat, whether fresh, salt or preserved, is increased to 1 lb. daily and the bread diminished to 1¼ lb. An average man has been estimated to be able to perform work equal to 450 foot-tons, i.e., 127 foot-tons above Moleschott's estimate of ordinary work, on a diet of ½ lb. of lean beefsteaks, ½ lb. of bread, 1 pint of milk, ½ lb. of potatoes, $\frac{1}{16}$ lb. of butter or dripping and 3½ lb. of water, and to preserve a physiological mean standard. In this scale obviously a great value is attached to the milk, for both the meat and the bread are below the scales of either the sailor or the soldier in active work. The amount of proteids in one pint of good milk is equal to that contained in 4 oz. of lean beafsteaks or 7 oz. of bread of average quality; and the amount of energy capable of being obtained from 1 oz. of milk when oxidised in the body is more than half of that obtainable from an ounce of best uncooked meat and a little less than one-third of that from a similar quantity of bread.

A very successful dietary for men at moderately hard work is that supplied to convicts, and their week's rations are given in the next table. Their weights are regularly taken and any loss would be at once met by an increase in diet or a lessening of work.

Diet for Male Prisoners (Convicts) at Hard Labour.

1.—BREAKFAST.

One pint of gruel, containing 2 oz. oatmeal, ½ oz. molasses.
Bread.

2.—DINNER.

Sunday { 4 oz. cheese. / Bread.

Monday—Beef. / Wednesday—Mutton. / Saturday—Beef. { 5 oz. (cooked), with its own liquor, flavoured with ½ oz. of onion and thickened with ½ oz. flour and any bread and potatoes left on previous days, and for every 100 prisoners ¾ oz. pepper.
1 lb. of potatoes.
Bread.

Tuesday / Friday { One pint of soup, containing 8 oz. shins of beef (uncooked), 1 oz. pearl barley, 2 oz. fresh vegetables, 1 oz. onion, ½ oz. flour, ¾ oz. pepper for every 100 prisoners.
1 lb. of potatoes.
Bread.

Thursday { 1 lb. pudding, containing 1½ oz. suet, 8 oz. whole meal, 6½ oz. water.
1 lb. of potatoes.
Bread.

3.—SUPPER.

Three-quarters of a pint of cocoa, containing ½ oz. cocoa, 2 oz. milk, ½ oz. of molasses.
Bread.

Bread per prisoner per week, 168 oz.—23 oz. each week day, 30 oz. Sunday.
Salt per prisoner per day, ½ oz.

In this also we have a very large amount of bread—1½ lb. daily—with other foods rich in carbo-hydrates, whilst the value of the meat as proteid is larger than at first appears, for the amount of water in cooked meat is one-fifth less than in uncooked meat, so that for comparison 5 oz. of cooked meat must be taken as equivalent to 6 oz. of uncooked. It is curious to note that the extra amount of bread (7 oz.), with the 4 oz. of cheese given on Sundays, when but little work is done, yields a more highly nitrogenised diet than the apparently better ration fixed for Mondays, Wednesdays and Fridays, which are presumably days for hard work. The nutritive value of the comparatively small amount of meat is compensated for by the large quantity of bread and the daily supply of oatmeal and cocoa. Every evidence is in favour of giving the sailor a fairly liberal allowance of bread and flour, and these carbo-hydrates should be in their softer forms in preference, so far as is possible, to biscuits which are often supplied in a form almost too hard for mastication.

In conclusion we wish to express our thanks to Dr. Curnow, Physician to the Seamen's Hospital, for the efficient and valuable assistance which he has readily afforded us in the course of our inquiries into this most important matter.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

ACCORDING to returns that have just been issued for the city of Moscow, exclusive of the province, the effect of cholera upon the city death-rate of 1892 has been relatively little. There have been 1283 cases of cholera, with 711 deaths, from the time of the outbreak to Jan. 7th last, in a population of over three-quarters of a million. It is reported from St. Petersburg that the daily death-rate in the hospital of the Infantry Guard is exceptionally high at the present time—from typhus fever and cholera it is rumoured.

Since our report of last week there have been two fresh cases and one death at Nietleben Asylum. The few sporadic cases that occurred at Trotha and Krollwitz do not seem to have given rise to any epidemic extension of the disease in that neighbourhood.

There have been a few cases of cholera at Altona and Ottensen, near Hamburg, but none are reported in Hamburg itself. The disease at Ottensen was traced to a well, in the water of which comma bacilli were discovered on examination.

As regards France, it would appear that a very serious outbreak of choleraic disease is stated to have occurred in Marseilles. During the past four or five days upwards of fifty persons have been attacked, a great many of whom have

already succumbed. No official declaration has yet been made, however, as to the exact nature, extent, or probable causes of the disease, but an official from Paris has had a long conference with the local board of health at Marseilles, presumably in regard to these points and as to the measures to be adopted for limiting its spread. The first cases were reported at the beginning of this month, since which the spread of the disease has been rapid.

On Tuesday last Dr. Proust read a paper to the Academy of Medicine in Paris on the cholera epidemic of last year, in which he particularly dwelt upon the fact that there were two perfectly distinct epidemics of cholera, one of which broke out on the 4th of April in the overcrowded prison at Nanterre, close to the Seine, and ultimately spread to various parts of France, especially to the north and west, and the other coming from the East, which is alleged to have had its origin in the North-West Provinces of India in March last, and to have gone *viâ* Kashmir, Afghanistan, Turkestan and Persia into Russia, extending thence to the Baltic ports and ports of the North Sea and causing the epidemic at Hamburg, the ripples of which afterwards touched our own shores and those of America. We have long ago and on several previous occasions called attention to these facts and adverted to the interesting circumstance that Antwerp formed the point of confluence of the two epidemics—viz., that from the East and that from Paris. The disease was introduced into Antwerp by two ships arriving at the same time from Havre and Hamburg respectively. As Dr. Proust remarks, it will be interesting to note hereafter whether one or both of these epidemics will revive, and which will prove the more serious and break out in the greater number of places.

It has been proposed to hold an International Cholera Conference, and as most of the Powers are favourable to the proposal, which originated with the Vienna Cabinet, the Conference will no doubt be held at Dresden and, if possible, before the end of the present month, in order to settle a number of questions before the approach of the summer season and hot weather. The leading idea with Count Kalnoky was that the Conference should arrive at some conclusions and formulate some regulations to be adopted in regard to land traffic of a similar character to those which the Sanitary Conference at Venice had recommended for sea traffic and shipping, so as to secure some general agreement and uniformity of action in the restrictive and precautionary measures to be recognised and adopted by the different European Governments. The points to be considered by the Conference will embrace a number of subjects of a practical legislative nature, and several medical experts will, it is expected, be present. It is alleged that the experience which has been gained during the present epidemic has thrown much light on what should and should not be attempted, and that quite as much information has been gained in the latter direction as in the former; if so, we may hope to see some line of action agreed upon that will prove reasonably effective and will not interfere unnecessarily with international commerce and the pressing practical requirements of everyday life.

EDINBURGH UNIVERSITY CLUB DINNER.

SIR JOSEPH LISTER ON THE PROPOSED CHANGES IN THE SCOTCH UNIVERSITIES.

AT the quarterly dinner of the Edinburgh University Club, held in the Holborn Restaurant on the evening of Wednesday, the 8th inst., Sir Joseph Lister, in the course of his speech in proposing the toast of "*Alma Mater* and the Edinburgh University Club," gave expression to a feeling of anxiety as to the effect which some of the changes recommended by the Universities Commissioners might have on the prosperity of the University. Referring to the proposal to cut down the incomes of some of the chairs to a fixed sum, he pointed out how small even the largest of those incomes at present were compared with those obtained by successful commercial enterprise or the law. He remarked that unless the possibility of obtaining prizes of substantial value were connected with the chairs it could not be expected that men of the highest class could be induced to devote themselves to the arduous labours of the Edinburgh Professorships. These labours were very much greater than those of corresponding teachers in London, while Edinburgh did not offer the opportunity presented by London for acquiring large incomes from private practice. He also doubted the wisdom of making the receipts of the professor independent of the success of his teaching as indicated by the number of his students. He feared that to do this would be to remove from the professor an important stimulus to exertion. Had the Commissioners had money at their disposal from the State to give substantial endowment to chairs which, in the nature of things, could not command a large attendance of students it would have been an excellent thing to have done this. But when this was not in their power, he believed they would have done more wisely to have left things as they were. He also, we are glad to note, referred with misgivings to the reported project of instituting special diplomas for special departments of medical practice.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6655 births and 4000 deaths were registered during the week ending Feb. 4th. The annual rate of mortality in these towns, which had declined in the preceding four weeks from 29·2 to 22·2 per 1000, further fell to 20·2 last week. In London the rate was 20·3 per 1000, and almost corresponded with the mean rate in the thirty-two provincial towns. The lowest rates in these towns were 12·8 in Huddersfield, 13·6 in Leicester, 16·1 each in Wolverhampton and in Gateshead, and 16·6 in Derby; the highest rates were 24·1 in Manchester, 24·4 in Halifax, 24·5 in Burnley, 25·2 in Blackburn, and 26·5 in Gateshead. The 4000 deaths included 351 which were referred to the principal zymotic diseases, against numbers declining from 435 to 396 in the preceding three weeks; of these, 87 resulted from whooping-cough, 64 from measles, 60 from diphtheria, 53 from scarlet fever, 39 from diarrhœa, 33 from "fever" (principally enteric) and 15 from small-pox. No deaths from any of these diseases were recorded last week in Brighton or in Huddersfield; in the other towns they caused the lowest rates in Wolverhampton and Leicester, and the highest rates in Burnley, Manchester, Preston, Gateshead and Bolton. The greatest mortality from measles occurred in Plymouth, Leeds, Hull, Bolton and Gateshead; from scarlet fever in Swansea; from whooping-cough in Birkenhead, Oldham, Burnley, Bolton, Birmingham, Preston and Norwich; from "fever" in Blackburn; and from diarrhœa in Burnley. The 60 deaths from diphtheria included 43 in London and 5 in Manchester. Five fatal cases of small-pox were registered in London, 3 in Manchester, 2 in Bolton, 2 in Halifax and 1 each in Bradford, Leeds and Gateshead; 89 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 20 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2580, against 2973, 2774 and 2688 on the preceding three Saturdays; 255 new cases were admitted during the week, against 236 and 250 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 984 to 563 in the preceding three weeks, further fell to 452 last week, and were 42 below the corrected average. The causes of 80, or 2·0 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Oldham, Leeds, Newcastle-upon-Tyne and in six other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Halifax, Sheffield and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the preceding three weeks from 28·5 to 23·4 per 1000, further fell to 21·9 during the week ending Feb. 4th, but was 1·7 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·0 in Perth and 13·3 in Greenock to 23·5 in Glasgow and 30·2 in Dundee. The 616 deaths in these towns included 41 which were referred to measles, 14 to whooping-cough, 11 to diphtheria, 10 to scarlet fever, 10 to diarrhœa, 5 to "fever," and 2 to small-pox. In all, 93 deaths resulted from these principal zymotic diseases, against 98 and

113 in the preceding two weeks. These 93 deaths were equal to an annual rate of 3·3 per 1000, which exceeded by 1·5 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 59 and 68 in the preceding two weeks, declined last week to 41, of which 19 occurred in Glasgow and 17 in Dundee. The 14 deaths from whooping-cough showed a slight further decline from the numbers recorded in recent weeks and included 13 in Glasgow. The fatal cases of diphtheria, which had been 3 and 10 in the preceding two weeks, further rose to 11 last week, of which 6 occurred in Glasgow and 3 in Edinburgh. The deaths referred to scarlet fever, which had been 12 and 9 in the previous two weeks, were 10 last week and included 7 in Glasgow. The 5 fatal cases of "fever" exceeded the numbers in recent weeks and included 3 in Edinburgh. The 2 deaths from small-pox were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 241 to 168 in the preceding three weeks, further fell last week to 159 and were 14 below the number in the corresponding week of last year. The causes of 64, or more than 10 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the preceding three weeks from 34·6 to 29·5 per 1000, further fell to 25·1 during the week ending Feb. 4th. During the past five weeks of the current quarter the death-rate in the city has averaged 30·2 per 1000, against 25·7 in London and 25·6 in Edinburgh. The 168 deaths in Dublin during the week under notice showed a decline of 30 from the number in the preceding week, and included 8 which were referred to "fever," 3 to whooping-cough, 3 to diarrhœa, 1 to diphtheria and not one either to small-pox, measles or scarlet fever. In all, 15 deaths resulted from these principal zymotic diseases, equal to an annual rate of 2·2 per 1000, the zymotic death-rate during the same period being 1·8 in London and 2·7 in Edinburgh. The deaths referred to different forms of "fever," which had been 11 and 6 in the preceding two weeks, rose again to 8 last week. The 3 deaths from diarrhœa exceeded those recorded in any recent week. The mortality from whooping-cough also showed an increase, whilst that from diphtheria showed a decline. The 168 deaths registered in Dublin last week included 24 of infants under one year of age and 39 of persons aged upwards of sixty years; the deaths of infants differed but slightly from those recorded in recent weeks, whilst those of elderly persons showed a marked further decline. Five inquest cases and 1 death from violence were registered; and 58, or more than a third, of the deaths occurred in public institutions. The causes of 17, or more than 10 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1893.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during the month of January in each of the forty-one sanitary districts of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 9·8 per 1000 of the population, estimated at 4,305,551 persons in the middle of this year. Owing principally to the decreasing prevalence of scarlet fever in London this rate showed a further decline from those recorded in the preceding three months, which had been 17·9, 14·6, and 11·0 per 1000 respectively. Among the various sanitary districts the rates last month were considerably below the average in Kensington, Westminster, St. James Westminster, St. Martin-in-the-Fields, St. George Southwark, and Rotherhithe; whilst they showed the largest excess in St. Pancras, Hackney, St. Giles, St. Luke, Bethnal Green, St. George-in-the-East, Limehouse, Poplar, Battersea, and Plumstead. The prevalence of small-pox in London showed a marked further increase during January, 81 cases being notified during the month, against numbers rising from 3 to 37 in the preceding four months; of these, 10 belonged to Islington, 10 to Camberwell, 8 to Whitechapel, 7 to St. Pancras, 6 to Chelsea, 5 to St. George-in-the-East and 5 to the Port of London sanitary areas. The Metropolitan Asylum Hospitals contained 80 small-pox patients at the end of January, against 6, 20, and 39 at the end of the preceding three months; the weekly admissions averaged 20, against 1, 5, and 10 in the previous three months. The prevalence of scarlet fever in London during January showed a slight further decline from that recorded in recent months; this disease was proportionally most prevalent in Hackney, Holborn, St. Luke, City of London, Limehouse, Mile End Old Town, Poplar, Camberwell, and Greenwich sanitary districts. The Metropolitan Asylum Hospitals contained 2613 scarlet fever patients at the end of January, against 3843, 3754, and 3168 at the end of the preceding three months; the weekly admissions averaged 223, against 429, 363, and 254 in the previous three months. Diphtheria also showed a slightly decreasing prevalence during the month under notice; this disease was proportionally most prevalent in Hackney, St. Giles, Strand, Bethnal Green, St. George-in-the-East, Battersea, Lewisham, and Plumstead sanitary areas. There were 268 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of January, against 312, 255, and 283 at the end of the preceding three months; the weekly admissions averaged 49, against 57, 48, and 53 in the previous three months. Enteric fever was proportionally most prevalent during January in Hammersmith, St. George Hanover-square, Hackney, and Poplar sanitary districts. The Metropolitan Asylum Hospitals contained 84 enteric fever patients at the end of January, against numbers declining from 124 to 87 at the end of the preceding three months; the weekly admissions averaged 12, against 15 and 12 in the previous two months. Erysipelas showed the highest proportional prevalence during the month under notice in St. Pancras, St. Giles, St. Luke, Bethnal Green, Poplar, and Bermondsey sanitary districts. Four cases of puerperal fever were notified during January in Battersea, and 3 in Bethnal Green sanitary districts.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various metropolitan sanitary districts, the deaths occurring in the institutions of London having been distributed amongst the various sanitary districts in which the patients had previously resided. The distribution of these deaths, and especially of those resulting from zymotic diseases, affords the most trustworthy data that can be secured upon which to calculate reliable rates of mortality. During the four weeks ending on Saturday, Jan. 28th, the deaths of 8828 persons belonging to London were registered, equal to an annual rate of 26·7 per 1000, against rates increasing from 15·7 to 19·5 in the preceding four months. The lowest death-rates during January in the various sanitary districts were 15·7 in Hampstead, 18·2 in Lewisham (excluding Penge), 19·1 in Plumstead, 19·4 in Wandsworth, 21·8 in St. George Hanover-square, and 22·9 in Fulham; in the other sanitary districts the rates ranged upwards to 34·9 in St. George-in-the-East, 35·9 in St. Saviour Southwark, 36·2 in Clerkenwell, 36·7 in Holborn, 37·4 in Rotherhithe, 37.5 in St. Luke, and 40·5 in Strand. During the four weeks of January 680 deaths were referred to the principal zymotic diseases in London; of these, 190 resulted from diphtheria, 148 from measles, 127 from scarlet fever, 123 from whooping-cough, 57 from diarrhœa, 33 from different forms of "fever" (including 32 from enteric fever, and 1 from an ill-defined form of continued fever) and 2 from small-pox. These 680 deaths were equal to an annual rate of 2·1 per 1000, against 1·8 and 2·0 in the preceding two months. No deaths from any of these diseases occurred last month in St. James Westminster, St. Martin-in-the-Fields, or St. Saviour Southwark, ; in the other sanitary districts they caused the lowest rates in Kensington, Hampstead, Strand, and Holborn, and the highest rates in Clerkenwell, Bethnal Green, St. George-in-the-East, Rotherhithe, and Plumstead. Only 2 fatal cases of small-pox were registered in London during the month under notice, the corrected average number in the corresponding periods of the preceding ten years being 21; of these 2 fatal cases one belonged to Newington and one to Camberwell sanitary districts. The 148 deaths referred to measles were 77 below the average; amongst the various sanitary districts this disease showed the highest proportional fatality in Clerkenwell, Bethnal Green, Rotherhithe, and Greenwich. The 127 fatal cases of scarlet fever exceeded by 40 the corrected average; this disease was proportionally most fatal in Hammersmith, St. Luke, Whitechapel, Poplar, Wandsworth, and Greenwich. The 190 deaths referred to diphtheria were more than double the corrected average; amongst the various sanitary districts this disease showed the highest proportional fatality in St. Giles, Clerkenwell, Bethnal Green, St. George-in-the-East, Limehouse,

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON.—JANUARY, 1893.

(Specially compiled for THE LANCET.)

Sanitary areas.	Estimated population in the middle of 1893.	Notified Cases of Infectious Disease.										Deaths from Principal Infectious Diseases.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON..	4,305,551	51	1683	639	1	197	12	30	878	3	3224	9·8	2	148	127	190	133	—	32	1	57	680	2·1	8828	26·7	137
West Districts.																										
Paddington	120,277	—	43	13	—	3	1	—	9	—	69	7·5	—	2	3	5	2	—	1	—	—	13	1·4	220	23·8	135
Kensington	167,038	—	44	10	—	6	—	1	17	—	78	6·1	—	—	3	5	2	—	1	—	—	11	0·9	300	23·4	133
Hammersmith	103,674	—	34	9	—	9	—	2	8	—	62	7·8	—	—	5	1	—	—	—	—	3	9	1·1	186	23·4	103
Fulham	103,075	—	42	10	—	1	—	2	9	—	64	8·1	—	2	1	2	2	—	1	—	1	9	1·1	181	22·9	1 2
Chelsea	98,114	6	24	13	—	7	—	—	16	—	66	8·8	—	—	3	2	6	—	2	—	2	15	2·0	222	29·5	180
St. George Hanover-square	75,825	2	15	7	—	7	—	1	2	—	34	5·8	—	—	4	2	1	—	1	1	—	9	1·5	127	21·8	141
Westminster	54,761	3	7	6	—	1	—	1	3	—	21	5·0	—	—	1	1	2	—	1	—	1	6	1·4	142	33·8	135
St. James Westminster	23,873	—	2	—	—	1	—	1	—	—	4	2·2	—	—	—	—	—	—	—	—	—	—	—	49	26·8	143
North Districts.																										
Marylebone	139,546	4	41	9	1	5	—	1	23	—	84	7·8	—	—	1	5	1	—	1	—	3	11	1·0	279	26·1	137
Hampstead	73,949	—	30	5	—	1	—	—	6	—	42	7·4	—	—	1	1	1	—	—	—	—	3	0·5	89	15·7	117
St. Pancras	234,025	7	92	46	—	9	—	2	51	—	207	11·5	—	11	7	14	5	—	1	—	2	40	2·2	524	29·2	149
Islington	328,608	10	132	45	—	16	—	1	33	—	237	9·4	—	12	11	13	8	—	2	—	4	50	2·0	593	23·5	107
Hackney	240,177	3	114	50	—	24	—	1	30	—	222	12·1	—	10	7	16	8	—	1	—	2	44	2·4	460	25·0	152
Central Districts.																										
St. Giles	38,511	2	13	9	—	2	—	—	8	—	34	11·5	—	1	—	4	1	—	—	—	—	6	2·0	100	33·8	10
St. Martin-in-the-Fields	13,911	—	5	—	—	—	—	—	1	—	6	5·6	—	—	—	—	—	—	—	—	—	—	—	36	33·7	417
Strand	23,508	—	3	8	—	2	—	—	2	—	15	8·3	—	—	—	1	—	—	—	—	—	1	0·6	73	40·5	125
Holborn	32,616	—	18	4	—	—	—	—	2	—	24	9·6	—	—	—	1	—	—	—	—	1	2	0·8	92	36·7	239
Clerkenwell	65,163	—	28	13	—	4	1	—	9	—	55	11·0	—	4	1	5	6	—	—	—	3	19	3·8	181	36·2	204
St. Luke	41,406	—	26	3	—	—	—	1	13	—	43	13·5	—	1	4	1	2	—	—	—	—	8	2·5	119	37·5	257
City of London	35,383	—	18	3	—	1	—	—	7	—	29	10·7	—	—	2	—	—	—	—	—	1	3	1·1	86	31·7	161
East Districts.																										
Shoreditch	123,425	2	42	19	—	5	—	1	17	—	86	9·1	—	4	1	5	1	—	—	—	2	13	1·4	248	26·2	85
Bethnal Green	129,625	1	52	49	—	6	—	3	28	—	139	14·0	—	26	3	12	1	—	2	—	1	45	4·5	333	33·5	2 3
Whitechapel	75,163	8	36	10	—	2	—	—	10	—	66	11·4	—	3	6	5	—	—	—	—	1	15	2·6	178	30·9	135
St. George-in-the-East	45,152	5	22	16	—	2	—	—	8	—	53	15·3	—	1	1	5	—	—	1	—	6	14	4·0	121	34·9	123
Limehouse	57,386	—	55	11	—	3	—	—	9	—	78	17·7	—	—	—	2	5	—	1	—	—	8	1·8	138	31·4	114
Mile End Old Town	108,006	1	58	17	—	2	—	—	15	—	93	11·2	—	4	3	4	—	—	1	—	1	13	1·6	195	23·5	88
Poplar	165,876	—	130	28	—	14	2	1	42	—	217	16·7	—	6	16	3	1	—	1	—	3	30	2·3	338	26·1	110
South Districts.																										
St. Saviour Southwark	26,823	—	7	4	—	1	—	—	1	—	13	6·3	—	—	—	—	4	—	—	—	—	—	—	74	35·9	153
St. George Southwark	59,952	2	12	4	—	4	—	—	3	—	25	5·4	—	3	2	2	2	—	—	—	1	10	2·2	158	34·3	184
Newington	117,430	3	44	11	—	5	—	—	16	—	79	8·8	1	1	3	1	4	—	—	—	3	13	1·4	281	31·2	110
St. Olave Southwark	12,861	—	4	—	—	—	—	1	2	—	7	7·1	—	1	—	—	—	—	—	—	—	1	1·0	30	30·4	121
Bermondsey	84,244	1	37	11	—	5	—	—	16	—	70	10·8	—	1	3	5	—	—	—	—	1	10	1·5	212	32·8	161
Rotherhithe	39,764	—	7	3	—	—	—	—	3	—	13	4·3	—	4	—	2	3	—	1	—	1	11	3·6	114	37·4	242
Lambeth	280,567	2	76	48	—	13	2	1	50	3	175	8·1	—	13	7	16	18	—	3	—	5	62	2·9	646	30·0	148
Battersea	160,633	—	58	37	—	9	6	4	28	—	142	11·5	—	6	1	13	10	—	1	—	3	34	2·8	296	24·0	140
Wandsworth	169,379	—	47	25	—	8	—	2	25	—	107	8·2	—	7	7	2	6	—	3	—	—	25	1·9	252	19·4	118
Camberwell	246,837	10	111	17	—	5	—	—	22	—	165	8·7	1	11	5	4	11	—	1	—	2	35	1·8	509	26·9	158
Greenwich	173,349	—	79	17	—	6	—	2	27	—	131	9·9	—	10	7	6	13	—	2	—	1	39	2·9	323	24·3	149
Lewisham (excluding Penge)	76,693	1	17	18	—	3	—	—	15	—	54	9·2	—	2	2	5	3	—	—	—	—	12	2·0	107	18 2	91
Woolwich	41,794	—	16	2	—	2	—	1	3	—	24	7·5	—	1	1	1	2	—	1	—	—	6	1·9	78	24·3	97
Plumstead	94,192	3	42	29	—	3	—	—	9	—	86	11·9	—	1	3	15	1	—	2	—	3	25	3·5	138	19·1	89
Port of London	—	5	—	—	—	—	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 55 notified cases of membranous croup.

† Including deaths from membranous croup.

Battersea, and Plumstead. The 123 fatal cases of whooping-cough were little more than a third of the corrected average; this disease was somewhat fatally prevalent in Chelsea, Clerkenwell, Battersea, and Greenwich. The 33 deaths referred to different forms of "fever" were 27 below the corrected average; there was no marked excess of "fever" mortality during the month under notice in any of the metropolitan sanitary districts. The 57 deaths from diarrhœa almost corresponded with the average. In conclusion, it may be stated that the mortality in London during January from these principal zymotic diseases in the aggregate was as much as 20 per cent. below the average.

Infant mortality in London, measured by the proportion of deaths under one year of age to registered births, was equal to 137 per 1000, and was below the average; the lowest rates of infant mortality were recorded in Hammersmith, St. Giles, Shoreditch, Mile End Old Town, Lewisham, Woolwich, and Plumstead; the highest rates were recorded in St. Martin-in-the-Fields, Holborn, Clerkenwell, St. Luke, Bethnal Green, St. George Southwark, and Rotherbithe sanitary districts.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

BRIGADE-SURGEON-LIEUTENANT-COLONEL HUGHES has been posted to the Royal Infirmary, Dublin. Brigade-Surgeon-Lieutenant-Colonel Macartney has been transferred from Gibraltar to Malta. Surgeon-Lieutenant-Colonel Irving has relieved Brigade-Surgeon-Lieutenant-Colonel Martin at the Lunatic Hospital, Netley. Surgeon-Major Bolster, retired list, has been appointed to the Medical Charge at Ipswich. Surgeon-Major Poynder has obtained leave to England from India. The following officers have embarked for India in the *Serapis*:—Surgeon-Major Forman and Surgeon-Captains Buist and Begbie. Surgeon-Colonel T. Maunsell has left England for duty in Madras.

ARMY MEDICAL STAFF.

The following Surgeon-Captains of the Army Medical Staff, having completed twelve years' service, will be promoted to the rank of Surgeon-Major:—J. R. Dodd, G. E. Twiss, R. F. Adams, C. G. D. Mosse, A. B. Cottell, T. Archer, M.D., H. J. R. Moberly, A. P. Hart, H. J. Barnes, W. G. A. Bedford, R. Jennings, M.D., S. C. B. Robinson, R. W. Ford, G. Coutts, A. Sharpe, M.D., W. J. Baker, A. T. Sloggett, H. K. Allport, M.D., E. Butt, S. Townsend, M.D., T. P. Woodhouse, J. Gibson, J. H. A. Rhodes, L. W. Swabey, R. Haselden, R. E. R. Morse, W. Rowney, M.D., T. R. Lucas, C. J. Addison, A. G. Kay, W. W. Pope, R. Porter, R. C. K. Laffan, C. A. P. Mitchell, M.D., G. J. Coates, M.D., T. B. A. Tuckey, F. A. Harris, T. H. Parke, F. A. B. Daly, A. S. Rose, M.D., J. Battersby, J. Maconachie, A. H. Morgan, M. W. O'Keefe, M.D., T. J. O'Donnell, J. Osburne, R. P. Hetherington, T. A. Dixon, and W. C. T. Poole.

INDIA AND THE INDIAN MEDICAL SERVICE.

The following appointments have been made:—Surgeon-Captain P. C. H. Strickland, Civil Surgeon of Chanda, to the Medical and Executive Charge of the Chanda Gaol. Surgeon-Captain E. C. Hare, Officiating Civil Surgeon of Bilaspur, to the Medical and Executive Charge of the Bilaspur Gaol. Surgeon-Captain W. D. Sutherland, Civil Surgeon of Damoh, to the Medical and Executive Charge of the Damoh Gaol. Surgeon-Captain J. B. Gibbons has been appointed Resident Physician to the Medical College Hospital and Professor of Pathology, Medical College, Calcutta. Dr. V. L. Watts, Officiating Civil Medical Officer, Malda, is to have Medical Charge of the South Lushai Hills District. Surgeon-Major T. R. Macdonald is to be Deputy Sanitary Commissioner of the Western Bengal Circle. Surgeon-Lieutenant-Colonel W. F. Murray is to be Civil Surgeon of Chittagong. Honorary Surgeon C. L. Fox is to have Medical Charge of the Demagiri outpost in the South Lushai Hills District. Bombay Sappers and Miners: Surgeon-Major W. A. Barren, Medical Service, in Medical Charge 16th Bombay Infantry, has been appointed to the Medical Charge, vice Brigadier-Surgeon-Lieutenant-Colonel J. Davidson, I.M.S., retired. Surgeon-Major J. S. Wilkins and Assistant-Surgeon P. P. Moolan have respectively delivered over and received charge of the Bijapur District Gaol. Surgeon-Major A. F. Fergusson has received charge of the Shikarpur Gaol. The services of the undermentioned Medical Officers of the Bengal Establishment, which were placed temporarily at the disposal of the Government of the North-West Provinces and Oudh, have been placed permanently at the disposal of that Government:—Surgeon-Captain L. G. Fischer and Surgeon-Captain L. J. Pisani. Surgeon-Major G. Laffan, M.D., A.M.S., in Medical Charge, Station Hospital, Thayetmyo, has been posted to the Medical Charge of the Station Hospital, Poonamallee. The following promotions have been announced:—Surgeon-Major Kenneth Downie, M.D., to be Surgeon-Lieutenant-Colonel; and Surgeon-Lieutenant-Colonel G. W. R. Hay, M.D., I.M.S., to be Brigade-Surgeon-Lieutenant-Colonel. It is notified that a good service pension has been conferred on Surgeon-Major-General J. Pinkerton, M.D., I.M.S., Bombay, Surgeon-General with the Government of Bombay, in place of Brigade-Surgeon-Lieutenant-Colonel C. J. F. MacDowall, retired, late I.M.S., deceased, Jan. 17th, 1892. Surgeon-Lieutenant-Colonel C. H. Joubert, M.B., F.R.C.S. Eng., I.M.S., has been appointed a Fellow of the University of Calcutta.

NAVAL MEDICAL SERVICE.

Surgeon and Agent: David S. Browne at Portaferry, Tara, Cloghy, and Burr Point (dated Feb. 8th, 1893).

VOLUNTEER CORPS.

Artillery: 1st Argyle and Bute: John Banks, M.B., to be Surgeon-Lieutenant (dated Feb. 4th, 1893).—1st Devonshire (Western Division, Royal Artillery): Surgeon-Lieutenant-Colonel J. S. Perkins resigns his commission (dated Feb. 4th, 1893).—*Rifle:* 2nd Volunteer Battalion, the Oxfordshire Light Infantry: Surgeon-Captain J. J. A. V. C. Raye, from the 1st Durham Volunteer Artillery (Western Division, Royal Artillery), to be Surgeon-Captain (dated Feb. 4th, 1893).—1st (Ross Highland) Volunteer Battalion, Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): Surgeon-Lieutenant J. Adam, M.D., to be Surgeon-Captain (dated Feb. 4th, 1893).—4th (Donside Highland) Volunteer Battalion, the Gordon Highlanders: Surgeon-Major W. Paterson to be Surgeon-Lieutenant-Colonel (dated Feb. 4th, 1893); Surgeon-Lieutenant A. Nicol, M.D., to be Surgeon-Captain (dated Feb. 4th, 1893).

THE VOLUNTEER OFFICERS' DECORATION.

A further list of names of Volunteer Officers upon whom this decoration has been conferred appeared in the *London Gazette* of Feb. 3rd. Amongst them are the names of Surgeon Richard S. Fowler, retired, 1st Volunteer Battalion, the Prince Albert's (Somersetshire Light Infantry), and Brigade-Surgeon-Lieutenant-Colonel David Thompson, 2nd Volunteer Battalion, the Duke of Cornwall's Light Infantry.

ARMY MEDICAL SCHOOL, NETLEY.

Surgeon-Captain Wm. Wilfrid Webb, M.B., of the Indian Medical Service (Bengal Army), half-pay, has been appointed to the dual post of Secretary to the Army Medical School, Netley, and Curator of the Museum. In the former post he succeeds Mr. Bourchet, who has for very many years most ably carried out the duties of the appointment. The last Curator was Surgeon-Major Dobson, F.R.S. Surgeon-Captain Webb entered the service in September, 1882, obtaining the second place at the open competition. At Netley he was awarded the Martin Gold Medal for Tropical Medicine and the Pathology Prize presented by Sir J. Fayrer. He served in India in the 14th Regiment of Sikhs, 29th Punjab Infantry, 2nd Regiment of Central India Horse and Meywar Bhil Corps. In 1885 he entered the Political Department of the Medical Service as Residency Surgeon at the Court of H.H. the Maharana of Udaipur and Superintendent of Gaols, Dispensaries and Vaccination in the Meywar State. From Udaipur he was transferred in a similar capacity to the Court of Bikanir. In 1888 he was placed on special duty as guardian to H.H. the young Maharaja of Bikanir, and for a time held charge of the office of the Political Agent, Bikanir State. Surgeon-Captain Webb graduated in the University of Aberdeen in 1881 with highest academical honours, being the only man in his year to whom such honours were awarded. Before entering the service he was Assistant Demonstrator of Anatomy and Demonstrator of Physiology at the Charing-cross Hospital School of Medicine, and Medical Registrar in the Hospital. He was placed on half-pay last September in consequence of his inability to stand the rigour of the Indian climate.

DEATH OF DEPUTY-SURGEON-GENERAL GUNN.

We record with sincere regret the death of Francis Leveson-Gower Gunn, Deputy-Surgeon-General, which occurred at his

residence, Rockdale, Rathgar, near Dublin, aged fifty-nine years. Deceased had suffered for the past six months from a very painful malady. He had served in various parts of the world, including the Gold Coast, and in the Crimean campaign, and was a member of the Franklin Relief Expedition. On his retirement from the Army he settled in Dublin and became identified with several philanthropic and religious associations. Deputy-Surgeon-General Gunn was a Justice of the Peace for the county of Dublin, a guardian of the South Dublin Union, and a Commissioner of Rathmines township.

LORD SANDHURST'S ADDRESS AT NETLEY.

The close of the sixty-fifth session of the Army Medical School has recently taken place, and we published last week an account of the proceedings which the occasion called forth at the Royal Victoria Hospital, Netley, when Lord Sandhurst, the Under-Secretary of State for War, distributed the prizes to the probationary surgeons of the British and Indian medical services respectively. Lord Sandhurst expressed himself as very anxious to see their practical education still further carried on by the probationary surgeons being offered facilities for attendance at the great London hospitals, so as to make themselves thoroughly abreast with the advancing progress of their profession. This is a step in the right direction, no doubt, but it seems to us that such facilities should also be extended to medical officers on their return to this country after tours of service abroad. Leave should be granted to all such officers as are *bonâ-fide* desirous of advancing their professional knowledge. Nor is there any reason why their studies and attendance should be restricted to London hospitals; they might very usefully be allowed to prosecute their practical studies at any of the larger Continental hospitals, provided they showed that their time had been really occupied in advancing their knowledge and in scientific pursuits likely to prove advantageous to the public service and themselves. A privilege of this kind would, moreover, encourage medical officers to cultivate and maintain a knowledge of modern languages.

THE WOUNDED IN MODERN WARFARE.

The effect which modern rifles and powder will have in increasing the number of casualties and the consequent provision that will have to be made in the *personnel* and *matériel* of army medical services naturally excite a great deal of attention at the present time. According to the report of a lecture by Surgeon-Captain Nichols in the October number of the *Journal of the United Service Institution of India*, that officer concludes that we must be prepared in the next war for a large increase of wounds amenable to treatment, a comparatively small increase of severe wounds, and a higher proportion of dead. There will be more for surgeons to do, but there will be a greater number of recoveries. He estimates the probable proportion of loss at about 20 per cent. of the Army in the field, which would be spread, moreover, over greatly increased areas. A largely augmented medical service and field hospital system would be necessary to meet these requirements, and Surgeon-Captain Nichols suggests that tortoise waggons or something more movable than our field hospitals might be made available for the immediate treatment of badly wounded soldiers. It may seem paradoxical to say that an element of weakness exists in the enormously increased strength of the armies of Europe, but it would appear to be impossible for belligerent Powers to feed and manœuvre armies made up, as they are on the Continent of Europe, of millions of soldiers. It would prove very difficult indeed to transport and provision such enormous forces at any great distance from their base and for any length of time. As regards this country, its army is a relatively small one, but no opportunity should be neglected of subjecting its medical service to practical training in camps and during manœuvres, in order that everyone should rehearse the parts they may have to play in actual warfare.

SANITARY ENGINEERING IN INDIA.

According to the *Times of India*, a book by Mr. John Wallace, C.E., is shortly to appear which should prove of much service to practical sanitarians and medical officers in that country. It deals, in the first place, with the climatic peculiarities and meteorological features of India as compared with those of England. Differences amounting to as much as thirty degrees exist in the mean temperature of the air and twenty-five degrees in the air of the sewers of the respective countries; consequently sanitary works constructed to meet the conditions of one country are not likely to give equally good results in the other. The putrefaction of sewage in India is said to begin within an hour of its entering the sewer and the sewer mud of Indian drains is of such glue-like consistence that it is extremely difficult to flush. Mr. Wallace is said to have invented an easy means of measuring and registering the pressure produced by currents of air in drain- or ventilating-pipes. Sewage farming, water supply and its distribution, ventilation of public and private buildings and other subjects of a similar nature, about which the author is stated to have been collecting information for the past six years in India, are stated to form part of the forthcoming volume.

THE RUPEE.

The failure of the late Monetary Conference at Brussels has not tended to raise the spirits of medical and other officers serving in India. A deputation of the European servants of the Indian Government was to have waited upon the Viceroy on the 31st ult., according to the Indian papers, in order to represent the grievous loss they were sustaining by the decreased value of the rupee. The subject must be taken up and settled by the Home Government, but it will have to wait for the present, as the attention of the House of Commons will be engrossed for some time to come by the consideration of other measures.

Correspondence.

"Audi alteram partem."

"DREAD OF CONTACT."

To the Editors of THE LANCET.

SIRS,—In your brief notice of an interesting case of the above in THE LANCET of Jan. 21st no mention is made of the cause of the dread, or the presence of other mental symptoms with which it is usually found to be associated.

Dread of contact is one of the leading features in many cases of insanity of doubt, in connexion with which it has been fully described by French alienists. It is observed to a lesser degree in melancholia and other forms of mental disorder, and has been noticed at the onset of acute cerebral disease, in the aura of epileptic fits, and in connection with other neuroses. Cases of morbid dread can generally be divided into two classes: (*a*) those who fear that their contact will injure others; (*b*) those who fear that contact will be productive of injury to themselves. As examples of the first may be mentioned the dread of communicating disease to others, or of involving others in some impending calamity, by contact or proximity. On several occasions I have seen patients who laboured under the delusion that they were surrounded by flames exhibit a morbid dread of contact, jumping over chairs and tables to avoid burning those who approached them. The second class is more numerous, and the fear in the patients is also due to the presence of delusions—e.g., that others will infect them with disease, desecrate or pollute them, or act upon them by some mysterious unseen agency. In a case of delusional melancholia which I saw recently dread of contact was very marked and was due to the delusion that the touch of others would cause blindness and sufferings of the most horrible nature. The patient would allow no one to touch or even approach him. When in bed, if anyone came near him he screamed and either hid under the clothes or jumped out of bed and ran to a safe distance. During the day he generally stood in the centre of the room—always on the alert—and was most agile in avoiding contact with those who approached him. If his jacket were touched he took it off quickly and sometimes removed all his clothing to prevent contamination. The whole of his attention was occupied from morning till night in keeping out of the way. Physical examination was impossible, the attempt causing the utmost terror, which did not subside for some time. In those cases associated with insanity of doubt delusions may be absent; the nerve-centres are apparently in an explosive and highly unstable condition and when once set in action by an impression discharge too powerfully and for an undue period. The nervous energy evolved is not proportionate to the impression received. May not the fear of this nerve-storm be the cause of this dread of contact in these cases?

I am, Sirs, yours truly,

Grimsby, Jan. 30th, 1893. JOHN BRUCE.

"DIABETES FOLLOWING INFLUENZA."

To the Editors of THE LANCET.

SIRS,—The case of diabetes I reported in THE LANCET of April 2nd, 1892 has, I regret to write, not recovered as I had hoped at the time. The urine was quite free from sugar for a month before he was discharged from hospital, and he was on the ordinary full diet during that period. He proceeded on a sick furlough for two months, but on his return he again reported himself as "sick" and his symptoms were as severe as at first. He was subsequently invalided from the service and is now residing in the country at my suggestion, but is in a miserable condition and unable to do any work whatever. Directly my report appeared in THE LANCET I received a letter from Dr. Saundby advising me to continue looking after this man carefully, as in his experience these cases did not recover, and in this case it has proved to be correct.

I am, Sirs, yours truly,

Dover, Jan. 31st, 1893. J. HOYSTED.

"THE TREATMENT OF MYXŒDEMA."

To the Editors of THE LANCET.

SIRS,—In a leading article in THE LANCET of Feb. 4th, on the Treatment of Myxœdema, it is stated that "as to the best form of administration, seeing that such excellent results are obtained by the simple consumption of the thyroid gland, it would seem unnecessary to use it in the form of extracts for hypodermic injections, or even as a powder for administration by the mouth." I would point out that there is a great advantage in being able to give the remedy in so simple and portable a form as that of the powder. I refer especially to the treatment of such cases as out-patients, who have considerable difficulty in obtaining thyroid glands; there is also the further risk of their being diseased, as pointed out by Dr. Alex. Napier, and as the glands very quickly undergo decomposition after the animal is killed, the importance of getting them fresh is obvious. All these contingencies are avoided by administering the thyroid extract in the form of a powder, which has also the further advantage, according to my experience, of causing scarcely any nauseating effects such as are liable to be produced by giving the glands raw or cooked. I should say that I always strictly enjoin my patients to rest at least an hour after taking the powder, on account of the liability to syncope, as shown by Dr. Murray in such cases, after injection. On the advantages of this method over that of hypodermic medication I need not dwell. I take this opportunity of acknowledging my indebtedness to Dr. Hector Mackenzie for suggesting the use of the powders and to Mr. Edmund White, B.S.C., F.I.C., for the original way in which he has so ably prepared them.

I am, Sirs, yours truly,

Finsbury-square, E.C., Feb. 7th, 1893. ARTHUR T. DAVIES.

DENTAL ADVERTISING.

To the Editors of THE LANCET.

SIRS,—I enclose a copy of a petition to the General Medical Council which has already received about fifty signatures, and shall be glad if you can find it a place in THE LANCET and afford it any support you may feel able to give. I think the General Medical Council will feel that we dentists appreciate their endeavours to elevate our branch of the profession, and will further relieve us in the manner indicated in the petition. At all events, if we can enlist the sympathy of the general body of medical men we shall be able to present a strong and united front all the sooner.

I am, Sirs, yours truly,

Postern-street, Nottingham, Feb. 7th, 1893. HENRY BLANDY.

PETITION

of Registered Dentists of Great Britain and Ireland to the General Medical Council.

May it please your honourable Council.

We the undersigned Registered Dentists believe that a person who is registered as a dentist is guilty of infamous and disgraceful conduct in a professional respect if he conduct his practice by means of the exhibition of dental appliances or apparatus in an open shop, or in a window or in a show case exposed to public inspection, or if he seek to attract attention by means of public advertisements, or circulars describing modes of practice, or patented or secret processes, or by the publication of a scale of professional charges: we therefore humbly ask your honourable Council to purge o r profession from any such degrading persons by removing their names from the Register and also the names of any registered dentists who may be associated as assistants or managers with persons not themselves registered who *trade* under the style of "Dental Institute" &c., and who are "covered," aided and abetted by the said registered dentists. We further beg your honourable Council to accept as proof of such infamous and disgraceful conduct production of the advertisement or circular, photographs or drawings of the exhibits or signs, sworn to by at least two affidavits, and such testimony as would be conclusive in a court of law.

And your petitioners will ever pray &c.

Name.	Qualification (if any).	Address.

THE TREATMENT OF ASIATIC CHOLERA.

To the Editors of THE LANCET.

SIRS, — The interesting communication of Surgeon-Lieutenant-Colonel Duke in your last issue leads me to the following narrative of experience. As cholera was progressing westward from New York in 1867 the inhabitants of the great inland cities of the United States were in much alarm, and provided themselves generally with one or another of the so-called "cholera mixtures," of which the most popular was that containing equal parts of the tinctures of opium, camphor and rhubarb. When the disease actually appeared in our midst, practitioners usually found their patients had already put themselves under the full influence of these drugs before seeking advice, and many were stupid with opium. In my own *clientèle* such cases speedily succumbed, as it appeared, largely because of a medicinal aggravation of the glandular and secretory torpor characterising the *primæ viæ* during the course of the attack. Sir George Johnson's views of the necessity for ecoproties had at that time awakened attention, but the laity strongly objected to such a reversal of older and accepted theories and simply would not take castor-oil. The writer adopted a middle course before the first week of the epidemic had expired, giving a powder or a freshly made pill of calomel, one-sixth of a grain, piperine one-quarter of a grain, and sugar of milk, three grains, every ten, fifteen, or twenty minutes *pro re natâ*, until fæculent matter ("floating islands") appeared in the stools. The early successes of this plan were so decided as to gain for it much confidence. To the best of my recollection not a patient was lost after its adoption unless previously saturated with opium or too far gone for any hopeful medication. It was a notable fact that typhoid states, so apt to follow the more acute stages of cholera, were seldom or never observed in cases so treated, and that convalescence was both rapid and uninterrupted. Proof was not lacking in the experience of my colleagues that piperine was a valuable adjunct to the mercury, the more so if cases were far advanced before being seen, and that small and frequent doses of both were preferable to larger and more divided ones. I am, Sirs, yours very respectfully,

H. WEBSTER JONES, M.A., M.D. Yale Univ.

Cavendish Mansions, Feb. 8th, 1893.

"CANCER AND SARCOMA CAUSED BY PSOROSPERMS."

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a letter by Dr. Armand Ruffer which appears in THE LANCET of Feb. 4th, and which refers to a passage in the report of the proceedings of the Pathological Society of Jan. 17th. The observation I made was not "gratuitous," since it was in answer to a statement made in the discussion by Dr. Galloway to the effect that the bodies I described as psorosperms were not like those described by Dr. Ruffer. I have referred to my notes and I find that I said (giving reasons) that the article by Ruffer and Walker, published in the second number of the *Journal of Pathology* and illustrated by Metchnikoff and Ruffer, was retrograde in the sense that it was far behind the work of many previous observers. This opinion I still hold. With regard to Dr. Ruffer's remarks as to the "extraordinary" statements made in one of my papers, I would say that it would have been more discreet to have withheld them until Dr. Ruffer was prepared to discuss the matter fairly.

In the same issue is published an article by Dr. Galloway entitled "Parasitism of Protozoa in Carcinoma," and therein he refers to the question of the presence of protozoa in sarcoma as being "now under consideration." Seeing that Dr. Galloway was present at the meeting of the Pathological Society on Jan. 17th, 1893, at which I showed drawings of, and described psorosperms in, sarcomata, I can only conclude

that Dr. Galloway had in mind the fact that my drawings and specimens have been referred to the Morbid Growths Committee. If this is so, Dr. Galloway has departed from established rule in not mentioning my name in connexion with the subject. I am aware that two distinguished English pathologists have made an observation previously to mine. Dr. Hadden diagnosed a case as multiple sarcoma which Mr. Cobbold declared to be psorospermosis.[1] Having found multitudes of psorosperms in six consecutive cases of sarcoma, I have no doubt both opinions were right. Dr. Galloway states that he has not found any record of protozoa having been found in rodent ulcer. On page 166 of a book which should be familiar to everyone working at the subject Dr. Wickham records that he has found psorosperms in one and Dubreuilh in another case of this disease. I may conclude by saying that I have found psorosperms in the only two cases of rodent ulcer in which I have looked for them.

I am, Sirs, yours truly,

J. JACKSON CLARKE.

St. Mary's Hospital Medical School, Feb. 4th, 1893.

SANITATION IN EGYPT.

To the Editors of THE LANCET.

SIRS,—You allude in a leading article in THE LANCET of Feb. 4th to the shortcomings of England as regards sanitation in Egypt and, if you will allow me to say so, I quite agree with you. There is one point, however, in your indictment which requires amendment. The published mortality bills refer to a few towns only, and are founded on the census of 1882, taken during the Arabi rebellion and utterly untrustworthy. I believe that the population in general is very much understated, and in the vast majority of the towns that is certainly the case. If this view is correct, therefore the death-rate you quote should be proportionately diminished. What is required in Egypt is amelioration of the sanitary condition of the villages from which no returns are published. The rich towns ought to be able to take care of themselves. It is the tax-laden fellah in his wretched mud hut who is the fitting subject for sanitary legislation, and if you will lend your powerful aid to bring this about you will earn the thanks of several millions of human beings who at present live lives to which no English farmer would condemn his cattle.

I am, Sirs, yours truly,

Southsea, Feb. 7th, 1893. H. R. GREENE.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—I have just read your interesting leading article on "Myxœdema," which appears in the current issue of THE LANCET, in which I observe you credit *me* with the idea of injecting thyroid extract. I must not deprive my son of the merit of his discovery, and must therefore ask you to intimate in your next issue that the idea was conceived by my son, Dr. George Murray, and not by

Your humble servant,

Northumberland, Feb. 6th, 1893. WM. MURRAY, M.D., &c.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Death of Mr. Nicholas K. Marsh, M.R.C.S.

MR. NICHOLAS KENDRICK MARSH, who had practised in Liverpool for forty-five years, died on the 2nd inst., aged sixty-nine, his death being of a painfully sudden character. For some years past he had been a member of the City Council and had on the day preceding his death attended the usual monthly meeting, which takes place on the first Wednesday of the month. He then appeared, according to a local paper, to be in the "pink of health." He never made any complaint that day, and appeared to be as well as usual until after breakfast the following morning. He had arranged to attend at the Second Police-court that morning, he having been elected a Justice of the Peace in 1891 and being on the rota. Hearing his bell ring, the servant went in and found him on the floor insensible. His son, Dr. N. Percy Marsh, who lives very near, was soon at hand and found his father dying, death taking place soon afterwards. The deceased was a native of Upholland, near Wigan, but came to Liverpool when quite young and received part of his medical education at the Liverpool School of Medicine. He had a considerable practice and was much respected by a large circle of friends. Though a strong politician, he was genial and courteous to all his political opponents, and in 1890 he was selected to fill the office of mayor. Acting, however, under the advice of Dr. Glynn, he declined the honour—a decision which was received with much regret by his medical brethren, as the mayoralty in this city had never yet been held by a member of the medical profession. The funeral, which took place on the 6th inst., was attended by a very large number of friends, both professional and lay, amongst whom were the mayor (Mr. R. D. Holt), with some of the city councillors, the clergy and choir of St. Saviour's Church (of which the deceased had been churchwarden), and representatives of the different associations and charities with which he had been connected.

The Hospital for Women.

The annual meeting of the subscribers and governors of the Hospital for Women was held on the 6th inst. The report stated that the resources of the institution had been taxed to the utmost extent during the past year, and that if more beds could be provided they would be occupied. But the committee did not feel justified in providing additional beds until there had been some approach to a corresponding increase in their financial resources. The in-patients for the year numbered 513, as against 439 in 1891. The operations had numbered 261, of which 54 were abdominal sections. The deaths were 14, of which 11 occurred after abdominal section. There were 3224 out-patients, with 11,326 attendances; these figures show an increase over those of the previous year. Fortunately, the deficit was not more than £66, which, it is hoped, will not be increased.

The Oath Question.

Mr. W. J. Stewart, the stipendiary magistrate, has sent a letter to the three daily papers to correct an erroneous report which had appeared in them—viz., that he was now willing to administer the oath in the Scotch form. He had always been ready to do this since it became the law, and (as mentioned in THE LANCET last week) he had done so for some time past. That anyone who wished to take the oath in that form might do so was a point upon which there could be no doubt; but there was a difference of opinion as to the meaning of the words "in the form and manner in which an oath is usually administered in Scotland." He considered that it should be administered by the magistrate and repeated by the witness in the first person for reasons which he gave at great length. The example set by some medical witnesses is being followed by others and by jurors. It is greatly to be hoped that any doubts which may exist as to the proper form of administration will be set at rest by an authoritative decision. The assizes will soon begin all over the country, medical witnesses will most certainly claim to be sworn with uplifted hand before the grand jury in the criminal and in the civil courts, and it is very desirable that there should be no waste of time caused by any doubt as to the proper mode of administering the oath.

Small-pox in Liverpool and the Neighbourhood.

The amount of intercommunication between Liverpool and Manchester may be judged from the circumstance that three different lines of railway run trains hourly through the busy part of the day, which is from an early hour in the morning to a late one in the afternoon. Hence the prevalence of small-pox in Manchester is a matter of anxious interest to the health authorities and the inhabitants of this city. So far the cases of variola have been few, have been promptly reported and as promptly isolated, thus preventing any further spread. There is ample hospital provision for these cases, and with compulsory notification in force the spread of the disease will, it is hoped, be averted. Persons suffering from it have shown the most deplorable ignorance in exposing themselves and even in persisting in doing so after repeated warning. One man suffering from it in a very mild form presented himself among the out-patients at a hospital. Fortunately no harm was done owing to the prompt measures which were taken to prevent this. In the Runcorn district fifteen persons infected with small-pox were removed to a temporary infectious diseases hospital erected on a site provided by the Manchester Ship Canal Company. The medical officer of health reported that since the last meeting six fresh cases had occurred at Stockton Heath, one at Weston Village and twelve at the Ship Canal huts, Acton Grange; one patient had died from malignant small-pox.

[1] Transactions of the Pathological Society, vol. xxxiv., p. 237.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Newcastle Royal Infirmary.

THE annual meeting of the governors of the Royal Infirmary was held here last week. The report showed that the number of patients admitted during the year has been 3293 compared with 3295 the previous year, leaving a decrease of two only. The number of out-patients and casuals has been 21,778. The financial statement showed that the ordinary income fell far short of the expenditure.

The Health of Carlisle.

The medical officer of health for Carlisle in his late report refers particularly to the prevalence of diphtheria in the borough, and says that there has been a great increase of cases—viz., 48 last year, compared with 24 the previous year. The deaths from the disease had been fourteen, or about one in four cases. He is not apparently sure about the causation of the disease, but he thinks that whatever increased the number of sore-throats in the district increased the liability to diphtheria, that it appeared to be a disease which varied much in its communicability, and that on the present occasion the infection from person to person was the main factor in its diffusion. Hence, he says, the importance of proper isolation at a fever hospital or private house.

Middlesbrough Asylum.

It is said that the Lunacy Commissioners have selected, or expressed their preference for, the Ormsby site. If adopted it will be very central and only a few miles from Middlesbrough in the Mid-Cleveland district. The sites offered had various advantages as to situation and price.

The Northumberland and Durham Miners' Relief Fund.

It is announced that there is a serious deficit of over £100,000 in this fund. The liabilities are £243,000, and there is only £140,000 to pay them with. A levy is proposed and a modification of the benefits in order to place the accident department on a sounder and more reliable basis. I may mention that during the late strike the surgeons in charge of the mines were very hardly dealt with, for they had to attend to the men and their families for, I believe, the whole time of the strike (about three months), for which they received no pay. So it is to be hoped that this aspect of the question may now receive attention in any modification of the fund.

Ambulance Instruction for Railway Servants in First Aid.

The general manager of the North-Eastern Railway has recently issued a new series of regulations with the object of encouraging railway servants to avail themselves of the opportunity of obtaining instruction in the methods of rendering first aid in cases of personal injury.

Railway Servants and the Eye-sight Tests.

A meeting of railway servants has been held in Gateshead to protest against the eye-test question, which they consider theoretical and harsh. They are willing to submit to any practical tests such as they are likely to meet in their work, but they are adverse to "strokes and letters."

A Floating Hospital for the River Tees.

It has been decided to place a floating hospital on the river Tees to accommodate twenty patients. It will be moored near the four-mile beacon on the Durham side of the river.

Spread of Small-pox in Westmoreland and Cumberland.

Serious reports are rife as to the spread of small-pox in Westmoreland and Cumberland. Very likely there may be some exaggeration in the accounts. It appears certain, however, that cases have appeared at Carlisle and Penrith, where there have been two deaths; also at Wigton a fatal case is reported. There have been no further cases at Appleby, where two men who had been attacked are doing well. It is said that the five men who were suspected and were under observation at the Infectious Diseases Hospital had been discharged—they were all Italian organ-grinders; and a monkey has also been discharged with them. Jacko accompanied them in their isolation in hospital.

Newcastle-on-Tyne, Feb. 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

A Joint Hall for Medical Societies in Edinburgh.

A CIRCULAR LETTER has been received by the members of the Medico-Chirurgical Society of Edinburgh asking them to take shares in an undertaking having for its object to acquire property which could be made suitable for the meetings of the different medical societies in the city. A scheme of the kind has been long spoken of, and the letter referred to is the outcome of a special meeting of the Medico-Chirurgical Society to consider the whole question. Some of the purely scientific societies have expressed their sympathy with the project and their readiness to join in it. At present and for many years past most of the scientific societies and all the medical ones have held their meetings in rooms and halls which they rent by the night in different parts of the city. This arrangement is regarded by many as quite unworthy of the scientific and medical position of a city like Edinburgh and as exceedingly inconvenient and hurtful to the best interests of the societies. The appeal promises to be well responded to, judging from the shares intimated as a preliminary list on the circular letter. It is expected that the Royal Colleges of Physicians and Surgeons may help the societies over financial difficulties.

The New Fever Hospital for Leith.

The subcommittee of the Leith Town Council, appointed to examine plans for the new fever hospital, have approved of plans submitted by Mr. Simpson, architect. The hospital is to be on the cottage system, and the estimated cost of the buildings is £20,000 and about £4000 more for general furnishings &c. The town clerk was instructed to obtain returns of the cost of food and general management of other fever hospitals for the information of the subcommittee.

Edinburgh Medico-Chirurgical Society.

A special meeting of this Society is intimated for the 15th and 16th of the present month for a discussion on Myxœdema. The clinical aspect will be considered by Dr. Byrom Bramwell; the pathological by Professor Greenfield, who is to give an elaborate demonstration illustrating the morbid changes; and the therapeutic by Dr. Lundie. Other members are to show cases or to give the results of their clinical observations and of treatment. It is anticipated that the meetings will prove very attractive.

Aberdeen Royal Infirmary.

The annual report of the directors of the Aberdeen Royal Infirmary has just been published. After referring to the opening in October last by H.R.H. the Marchioness of Lorne of the Jubilee Surgical Pavilion, the report deals with the expenditure, which, owing to the extension of the hospital, amounted in 1892 to £6998, an increase of £716 as compared with that in 1891. The income had also increased, the amount for 1892 being £6947. The largeness of the income was due to the unusual number of legacies. There were 1950 patients (764 medical and 1186 surgical) treated in 1892, showing a slight decrease as compared with the number in 1891. Of the patients treated in the hospital 862 were cured, 483 relieved, 319 left of their own accord or were unfit for treatment, and 142 died. The number of out-patients supplied with advice and medicine was 1746. In the new pavilion there are three dedication wards, named respectively after H.R.H. Princess Louise, Mr. William Henderson of Devanha House (the promoter of the "Jubilee" Extension Fund), and Miss Rachel Frances Lumsden, the superintendent.

Aberdeen Royal Lunatic Asylum.

The ninety-second annual report shows that the income for 1892 was £20,893 and the expenditure £20,341, leaving a surplus of £552. On Jan. 1st, 1892, there were 646 patients on the register, and on Dec. 31st 664, the total number admitted during the year having been 207 (81 males and 126 females, a decrease of 15 males and 4 females on the preceding year). The number discharged was 141, of whom 84 had recovered, 24 were relieved and 33 not improved. The mean duration of residence of the recovered was six months and a half. The number of deaths was 48, 30 males and 18 females. There had been no serious accident of any kind, but scarlet fever had made its appearance twice and one patient had died. There had been also two deaths from erysipelas.

February 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Ligature of Innominate and Common Carotid Arteries.

MR. COPPINGER'S patient is progressing satisfactorily. He is much quieter and, so far as I can judge, has an extremely good chance of ultimate recovery. I saw him to-day (Tuesday), the thirtieth day after the operation, when I found that the slight oozing of serum had entirely ceased, and he acknowledged that he felt quite comfortable. The tumour is now about half the size it was at the time of operation. The only successful case up to this date has been that recorded by Dr. A. W. Smyth in 1864, both arteries also being tied, as in Mr. Coppinger's case. In Dr. Smyth's case hæmorrhage occurred on the fifteenth, thirty-third and fifty-first days, and the vertebral artery was tied on the fifty-fourth day. The patient lived for ten years.

Health of Dublin: December Quarter.

The births registered in the Dublin registration district during the December quarter numbered 2150, or a rate of 24·6; and the deaths 2127, or 24·3. Zymotic diseases caused 196 deaths, or 139 less than those recorded for the corresponding quarter of the previous year, the death-rate being 2·2, or 1·5 under the average rate for the fourth quarter of the past ten years. Measles only caused 6 deaths; scarlet fever, 9; and whooping-cough, 8. Typhus fever caused 3 deaths and enteric fever 57. Eight deaths were recorded from influenza.

Murphy, an attendant at the Cork Lunatic Asylum, has been placed under arrest for alleged injuries inflicted by him on an inmate of the asylum, which are said to have caused death on the 1st inst.

The Local Government Board have forwarded the Cork Guardians a sealed order granting a superannuation allowance of £65 to Mr. T. Callaghan on his retirement from the position of visiting physician to the workhouse.

Mr. Joseph William Gallagher, R.N., of Killybegs, has been placed on the Commission of the Peace for county Donegal.

February 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Resection of the Internal Saphenous Vein for Varix.

IN presenting[1] a patient upon whom he had successfully performed the above operation, M. Reynier remarked that this treatment had been resuscitated by Trendelenburg, who himself submitted to it, having previously planned each step of the operation. The leg having been raised and subjected to compression, about six centimetres of the internal saphenous vein were removed, the result being excellent. In France, Quénu, Remy and Schwartz have practised the operation, M. Reynier himself having operated five times, and always with satisfactory results. The patient in question was so pleased with the benefits derived that he requested a repetition on the other leg. M. Reynier always advises the wearing of an elastic stocking after the operation, but the above-mentioned patient, being too poor to buy one, had gone on very well for six months without one. M. Ricard states that in 1890–91 he had resected a dozen varicose saphenous veins without any accident happening. He avows himself less enthusiastic about the treatment than he used to be, and believes the amelioration produced to be due to the forced rest in bed and (in the case of very painful varix) to the removal with the portion of vein of some compressed nerve filaments. He would limit the intervention to very voluminous and painful varices. M. Reynier persisted in considering the remote results of the resection as quite satisfactory. It will be remembered that some time ago I reported some cures of obstinate ulcers of the leg by the vein-resection treatment.

The Danger of certain Mercurial Salts used as Toys.

The Conseil d'Hygiène de la Seine has just recommended that the sale of a toy called "Pharaoh's serpent" (which, as is well known, is composed of sulpho-cyanide of mercury) be forbidden, and that the curious omission of this salt in the list of poisonous mercurial preparations included in the decree of 1850 be forthwith repaired. The ingenious toy ("Pharaoh's serpent"), which was introduced to *la jeunesse française* in 1865 by a conjurer, aptly named Clevermann, owes its popularity to its property of swelling considerably when heated. The title of the toy has lately been changed to that of *Père la colique*—a name suggestive of the contortions of a sufferer from intestinal spasms. The white cylinder constituting the toy is dangerous in two ways. Some fatal cases have been reported as a consequence of its being swallowed. Another danger arises from the gases evolved when it is burning. The products of its combustion have lately been analysed by M. Lentrait of the École de Pharmacie. They consist of the vapours of sulphide of mercury, metallic mercury, sulphurous acid, carbonic acid and, in small quantities, hydrocyanic acid. The Council considers that when several "serpents" are burnt one after the other in a confined space (such as, for instance, in an infant school) the absorption of these vapours might lead to grave or fatal consequences. Several "serpent"-sellers have of late been prosecuted, but the non-inclusion of the sulpho-cyanide in the list of poisonous mercurial salts has sufficed to nullify the prosecution. Another toy condemned by the Council is the so-called *bain pour argenter soi-même*. This preparation is, of course, innocent of silver and consists of mercurious nitrate mixed generally with starch. Placed in contact with metals, a layer of mercury is deposited. The Council urges the authorities to confiscate this article and to prosecute the sellers.

Vinegar v. Cholera.

According to M. Haschimodo, acetic acid and the comma bacillus do not live together in amity and concord. After a maximum sojourn of fifteen minutes in vinegar, containing from 2·2 to 3·2 per cent. of acetic acid, the bacillus is said to perish. Vinegar of this strength, saturated with pure cultures of the cholera bacillus, can, after an interval of fifteen minutes, be inoculated without danger into animals or be eaten with impunity by human beings. This statement is based on numerous experiments. Salad eaters may, then, on the condition of employing a large proportion of vinegar in the preparation of the dressing, consume their favourite dish without fear of absorbing the dreaded bacillus.

Anginophobia followed by Suicide.

M. Huchard (Société Médicale des Hôpitaux, Feb. 3rd) recently received a visit from a man who, firmly persuaded that he was affected with angina pectoris, desired to consult him on the subject. He considered himself a lost man. Examination enabled M. Huchard to assure him that he was mistaken, that his trouble consisted only of false angina. The patient left without being convinced of his error, and two days later he committed suicide. Two of the man's relatives were lunatics. M. Huchard lays down the following rules for the diagnosis of true from false angina. When the attack is brought on by an effort or by walking, it is an example of true coronary heart pangs. An attack occurring spontaneously and independently of muscular effort is false or pseudo-angina. True angina pectoris, the first attack of which has been caused by an effort, may, however, recur spontaneously in the night.

The Library of the Faculty of Medicine.

In a previous letter I gave your readers a detailed description of the new library of the Faculty. The 300 seats provided therein have proved to be inadequate for the accommodation of the students who make use of it. The Minister of Public Instruction has accordingly authorised Dr. Hahn, the chief librarian, to reopen the old library, which has remained unused for one year, and which it had been intended to convert into an examination hall. Credits have been asked for necessary repairs, and the old familiar room will in future serve to accommodate first and second years' students. The library of this Faculty is one of the most frequented in Europe, no less than 60,000 entries having been registered since October last.

February 7th.

[1] Société de Médecine et Chirurgie Pratiques.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Cholera in Germany.

FROM the published official reports I gather that only one new case of cholera and five deaths from that disease occurred at the Nietleben Asylum last week, making the total numbers 115 and 47. Seven cases and two deaths occurred in the same week at the neighbouring places of Krölwitz, Trotha and Wettin. Only one case was reported from Hamburg last week, but ten cases and six deaths were

announced at Altona. Professor Koch and Professor Gaffky of Giessen (Koch's companion on his Egyptian and Indian journey) visited Hamburg last week at the Senate's request and were present at a meeting of the Cholera Committee on the 30th ult.

Professor Virchow on the Sewage Farm System.

At a meeting of the Berlin Medical Society last Wednesday Professor Virchow discussed the question whether a number of cases of typhus fever which occurred in the autumn of 1891 in the district where the eastern sewage farms of the city of Berlin lie were caused by the drain water. The patients did not live on the estates, but only worked on them, returning to their villages in the evening. The estates in question were not administered by the Berlin authorities, but by farmers to whom they were let, and consequently the special sanitary regulations drawn up for sewage estates were not so strictly enforced there as on the other estates. Besides the medical men whose duty it was to report by telephone all cases of illness on the estates to the central office of the city, infectious or seemingly infectious, there were two bacteriologists whose special business it was to examine the drain water for typhus and cholera bacilli, and who have never found any. It was proved that the patients in question had drunk the water, but a temporal relation between the drinking and the appearance of the disease such as would have justified the inference that the latter was caused by the former was not proved. The bacteriological investigation of the drain water from the fields in question led to no result; but this circumstance was not very significant owing to the length of the interval between the occurrence of the cases and the investigation. It was proved that the number of typhus fever cases that occurred at the same time in the adjacent districts further from the estates was unusually great. In view of these facts, Professor Virchow declared it highly improbable that the cases in question had anything to do with the sewage. The only previous case of typhus fever in the immediate neighbourhood of the estates had been traced with great probability to the use of water from a well to which, owing to its bad construction, the water from the street gutter had access. Asiatic cholera had never occurred on the sewage estates, but there were cases of diarrhœa and cholera nostras last year during the cholera epidemic in Hamburg. The patients were inmates of the Rummelsbury Workhouse, who had been working on the sewage estates. It was noteworthy that two cases of Asiatic cholera and several of cholera nostras occurred in the workhouse at the same time. This simultaneous occurrence of more or less severe intestinal diseases with Asiatic cholera had often been observed but never explained. It was worth considering whether the Russian doctor who maintained that severe cases of Asiatic cholera occurred only when comma bacilli entered the body simultaneously with other bacteria was not right. It was necessary to subject the bacteria of cholera nostras to most exact investigation and to compare them with those found in the excreta of cholera patients. Professor Virchow assured his hearers in conclusion that there was no city in the world in which the hygienic supervision of the removal of excreta was so rigorously exercised as at present in Berlin, and that there was no reason to apprehend danger to the public health from the sewage-estate system.

An alleged Remedy for Diphtheria.

A recent number of a Berlin paper contained a communication to the effect that an apothecary's widow in Berlin possessed the secret of a sure remedy for diphtheria. In course of time persons of official position began to take an interest in the matter, which went so far that the sum of 100,000 marks was fixed upon as the price for the recipe. Just as the negotiations were about to be concluded, however, Dr. A. Krüche, head physician of the Physical Clinic here, accidentally received a remnant of the medicine, in which was found a small piece of a vegetable substance, which proved to be periwinkle, belonging to the dogbane family.

Berlin, Feb. 5th.

SUSSEX EYE HOSPITAL.—This hospital has been established nearly sixty years, and its sphere of useful work has steadily extended. The year 1892 closed with a debt due to the treasurer of £31 10*s.* 3*d.*, and an increase of income is an urgent need to maintain the proper working of the institution. Nearly 3000 patients were treated during the past year, whilst about 300 accident cases were admitted.

Obituary.

MR. JOHN HENRY HEWER, M.R.C.S. ENG., L.S.A.

Highbury has lost one of its most esteemed practitioners by the death of Mr. Hewer. A few sentences suffice to record the principal events of his life, as far as such things are matters of record. He was born in February, 1831, at Chobham in Surrey, was educated at St. Paul's School, Southsea, and entered the profession, as was common in those days, by apprenticeship to his father at Chobham. Thereafter he went to St. Bartholomew's Hospital for his medical education and became qualified in 1852. Shortly after this he entered into partnership with Mr. Harding, then of Milner-street, Myddelton-square, Islington. At a later period he entered into partnership with Mr. Calthrop. Later still the active firm was joined by Dr. T. Langton Hewer. Of the three partners, none was more ubiquitous and energetic, and we may safely say none was more acceptable, than the senior partner, whose presence was always a satisfaction and a pleasure either to his patients or to his professional brethren, to whom he was always kind and considerate and helpful. Mr. Hewer's death is felt the more as it was preceded by so short an illness. Less than a week before his death he went into the country to see an old patient suffering from pneumonia, who died. Mr. Hewer came home and soon developed a rigor and other indications of pneumonia, which became complicated with pericarditis and he succumbed in about five days. A few years ago he was very ill with pneumonia. He leaves a widow and many children to feel his death, most of them sons, to follow his own profession.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT an ordinary meeting of the Council of the Royal College of Surgeons, held on Thursday, the 9th inst., Mr. Thomas Bryant, President, in the chair, the Council confirmed their resolution of the 12th ult. removing a Member of the College who had been convicted of forgery from their register. The Secretary was instructed to forward to him a copy of the resolution of the Council calling upon him to return his diploma, as required by Clause 5, Section XVI., of the By-laws, and to forward the resolution to the General Medical Council. Mr. Frederick Treves has resigned his appointment as a member of the Board of Examiners in Anatomy and Physiology for the Fellowship, and his resignation has been accepted. Mr. Frank E. Beddard also resigned his appointment as an examiner in Elementary Biology. A new appointment will be made at the next Council meeting. The Secretary informed the Council that he had received a cheque for the balance of the taxed costs in the action of Steele *v.* Savory.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen have passed the First Examination of the Board in Materia Medica and Pharmacy (Part II.):—

Yusuf Yuhannah Abcarius, Syrian Protestant College, Beyrout; Donald Acland, private study; Arthur R. Adams, Guy's Hospital; Frank Ashe, Owens College, Manchester; Alfred Atherton, St. Thomas's Hospital; Richard Baugh, Dublin; John D. W. Beavis, Bristol Medical School; William B. Bell, King's College; Herbert G. Beville, St. George's Hospital; Albert E. Blades, private study; Wm. A. Carden, Guy's Hospital; Alfred Carruthers, St. Thomas's Hospital; James Eustace Cecil, Guy's Hospital; Sydney Clarke, King's College; Walter Travers Clarke, Guy's Hospital; Francis Edmund Clay, Westminster Hospital; Thomas G. D. Cooper, Queen's College, Cork; William F. Cross, St. Bartholomew's Hospital; Alfred E. M. Curtis, Middlesex Hospital; Peter L. Daniel, private study; Arthur T. Davey, Middlesex Hospital; William L. B. Davies, Guy's Hospital; Christopher D. Dawes, St. George's Hospital; Stewart R. Douglas, St. Bartholomew's Hospital; Frederick P. Duncan, University College; Herbert Farnill-Scott, Yorkshire College, Leeds; William Gilbertson, Cambridge University; Gerald H. Goddard, University College; Alfred J. Grant, St. Thomas's Hospital; Charles F. Graves, St. Mary's Hospital; Ernest

W. H. Groves, St. Bartholomew's Hospital; Joshua H. Hall, Owens College, Manchester; John J. Hanley, private study; Cyril B. Howse, London Hospital; Herbert A. Hutt, St. Bartholomew's Hospital; Rees G. Jones, London Hospital; Arthur S. Matthews, St. Thomas's Hospital; Edwin C. Montgomery, Charing-cross Hospital; Charles W. Moore, Owens College, Manchester; Leonard W. Oliver, St. Mary's Hospital; Charles S. Ormsby, Edinburgh University and St. George's Hospital; William Parkinson, Yorkshire College, Leeds; Arthur B. Passmore, Guy's Hospital; Cyril C. Poole, Guy's Hospital; James H. Powell, King's College; Walter J. O. Ray, St. Thomas's Hospital; Fred. S. Rhodes, Owens College, Manchester; Albert J. Riddett, Middlesex Hospital; Frederick S. Rowland, University College, Liverpool; Thomas H. Sanderson, St. Bartholomew's Hospital; David C. M. Shaw, Owens College, Manchester; Ernest T. Shorland, Guy's Hospital; Percy M. Smith, St. Mary's Hospital; William N. Spencer, private study; Harry J. Spon, Guy's Hospital; Bertram C. Stevens, private study; William Sutcliffe, Mason's College, Birmingham; Edward A. Tudman, University College; Henry Watson Turner, Middlesex Hospital; Joseph Rowland Turner, Sheffield Medical School; Sidney H. White, University College; Joseph Wilding, St. Bartholomew's Hospital; William S. Willmore, Mason's College, Birmingham; William W. Woollicscroft, Charing-cross Hospital; John Vigers Worthington, London Hospital.

The following gentlemen having passed the necessary Examinations have been admitted Diplomates in Public Health by the two Royal Colleges:—

Clark, Walter Frederick, L.R.C.P. and S. Edin., Royal College of Surgeons, Edinburgh.
Coleman, Owen, M.D. Aberd., M.R.C.S., Guy's Hosp. and Aberdeen University.
Etches, Wm. Robt., L.R.C.P. Lond., M.R.C.S., Guy's Hospital.
Fawcett, Wm. Herbert, M.D. Brux., L.R.C.P. and S. Edin., Edinburgh University and King's College Hospital.
Fielden, Wm. Eckett, M.D. Lond., M.R.C.S., Guy's and University College Hospitals.
Jefferiss, Walter Robt. Spence, M.D. Edin., Edinburgh University.
Jones, Benjamin, M.D. Edin., Edin. Univ. and Univ. Coll. Hospital.
Jones, Frederick Felix, M.R.C.S., Guy's Hospital.
Kákâ, Sorabji Manekji, L.R.C.P. Lond., M.R.C.S., Univ. Coll. Hosp. and Bombay.
King, Arthur, M.B. Edin., Edinburgh, Univ. Coll. and Coll. of State Medicine.
Macleod, Robt. Lockhart Ross, Surgeon-Captain, Army, M.B. Glasg., Glasgow University.
Mair, Ludovic Wm. Darra, L.R.C.P. Lond., M.R.C.S., St. Bart.'s Hosp. and College of State Medicine.
O'Connor, Bernard, M.D. Q.U.I., M.R.C.P. Lond., Dubl. and St. Mary's Hospital.
Procter, Wm. Jas., M.B., L.R.C.P. Lond., M.R.C.S., London Hospital.
Solly, Ernest, M.B. Lond., F.R.C.S. Eng., St. Thomas's and Univ. College Hospitals.
Tebb, Albert Edwd., M.B., L.R.C.P. Lond., M.R.C.S., University College and Guy's Hospitals.
Thomson, Frederic Holland, M.B. Aberd., Aberdeen University and College of State Medicine.
Woodhouse, F. Decimus, L.R.C.P. Lond., M.R.C.S., St. George's Hosp.
Wray, George Bury, M.R.C.S., University College Hospital.

Thirty-two candidates presented themselves for this examination, of whom nineteen passed and thirteen were referred.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having previously passed the necessary Examinations and conformed to the By-Laws and Regulations, and having now attained the legal age (twenty-five years), were, at the ordinary meeting of the Council on Thursday, the 9th inst., admitted Fellows of the College:—

Bailey, Robert Cozens, M.B., B.S. and M.S. Lond., L.R.C.P. Lond. St. Bartholomew's Hosp.; Diploma of Member dated Feb. 13th, 1890.
Rogers, Leonard, L.R.C.P. Lond., St. Mary's Hospital; Feb. 12th, 1891.
Maidlow, W. Harvey, M.B. and B.S. Durh., L.R.C.P. Lond., St. Bart.'s Hospital; July 30th, 1891.

UNIVERSITY OF CAMBRIDGE.—At a congregation held on the 3rd inst. it was resolved to appoint a Demonstrator in Palæo-zoology without stipend. Dr. Allbutt, Regius Professor of Physic, Dr. A. Macalister, Professor of Anatomy, and Dr. Donald Macalister were appointed to represent the University at the 11th International Medical Congress to be held in Rome in September, 1893. Also the following degrees were conferred:—

Bachelors of Medicine and Surgery.—William Bower, Donald William Carr, Walter Sharp Frith, Trinity; Hugh Culliford Sharp, Gonville and Caius; Frank Henry Bliss, Sidney Sussex.

FOOTBALL CASUALTIES.—On the 1st inst. a youth died at Bolton from injuries sustained during a match recently played. The following accidents occurred on Saturday last:—While playing a local match under Association rules a youth of Plaistow, aged seventeen, received injuries to the right leg, and was taken to the Poplar Hospital.—During a match at Wakefield between the East Moor and Bruntcliffe teams, the Bruntcliffe wing three-quarter dislocated his shoulder, whilst another player was seriously injured.—A youth playing with the second team of the Farsley Recreative Evening Classes on the Farsley Recreative Ground in a match against a Stanningley team, fractured his left arm. At Normanton, a Dewsbury St. Paulinus player, in the course of a match against Normanton St. John's, fractured his right leg.

PRESENTATION.—On the 3rd inst. Mr. John Green, retiring librarian and secretary to the Westminster Hospital Medical School, was presented with a purse containing over a hundred pounds, subscribed amongst the students and lecturers. Dr. Donkin, in making the presentation, alluded to the extreme regret felt by all at the indisposition of the secretary which necessitates his retirement, and the hearty manner in which all had responded to the invitation to subscribe to the testimonial and purse. At the conclusion of an impressive speech the chairman called upon Mr. Nitch Smith to read the sympathetically worded testimonial. Mr. Green replied and thanked all concerned in very feeling terms.

HOSPITAL SUNDAY FUND.—At a meeting of the Hospital Sunday Fund held, under the presidency of the Lord Mayor, at the Mansion House on Tuesday, Feb. 7th, the following names were selected to form the Distribution Committee:—The Lord Mayor, Sir Sydney Waterlow, Sir James Whitehead, M.P., Sir Owen Roberts, Mr. J. D. Allcroft, Mr. Bonsor, M.P., Mr. Herman Hoskier, Mr. F. H. Norman, Dr. W. Sedgwick Saunders, and Mr. Alfred Willett. The Rev. Dr. Donald M'Leod and the Rev. R. F. Horton were elected to the General Purposes Committee. Sir E. Hay Currie and Mr. R. B. Martin, M.P., were re-elected hon. secretaries and Mr. Henry N. Custance was re-appointed secretary for the twentieth year in succession. A donation of £300 from "E. A. H." was reported.

GLASGOW CONVALESCENT HOME.—On Jan. 17th the annual meeting of subscribers to this institution was held in the Religious Institution Rooms, Mr. Wm. Kerr presiding. The report stated that 1562 patients had been admitted into the home during the past year, as against 1430 in the year 1891. The total expenditure in the annual revenue account amounted to £2042 19*s.* 11*d.*, being a total cost per patient of £1 6*s.* 9½*d.* The annual subscriptions from ordinary subscribers amounted to £946 12*s.* 3*d.*, and £348 5*s.* 3*d.* had been received from employées in public works. The total subscriptions for the year amounted to £1448 12*s.* 7*d.* The new buildings, the report anticipated, would be ready for occupation in the spring of this year. The chairman, in moving the approval of the report, dwelt on the fact that the institution had been exempt from any of the infectious ailments which had been prevalent, and that there had been no sickness except what the inmates brought with them. The report was adopted.

MEDICAL MISSIONS.—A special meeting on medical missionary work was held at the Church Missionary House, Salisbury-square, E.C., on Friday, the 3rd inst., and was presided over by Dr. Thorne Thorne, C.B., F.R.S. About eighty persons were present, mostly medical students, including a large preponderance of lady students. The chairman delivered an earnest address on the true character of medical missions, which he considered were the most perfect form of missionary work. High qualifications and academical honours were not thrown away but needed in such work. As the East had given the light of Christianity to the West, might we not thus return some of our debt to Eastern lands? Dr. Edmund Downes referred to his own medical missionary work in Kashmir. He pointed out the danger of being engrossed by the abundant medical work and neglecting the spiritual, and enlarged on the advantage of itinerary work. Dr. Herbert H. Lankester, secretary to the Medical Mission Committee of the Church Missionary Society, spoke of the urgent call for more medical workers in every mission field. Dr. J. H. Loch, from long experience in the Civil Service in India, pointed out how much Christian medical men could help missionaries, even when unable to take a direct part in the work. Every well-equipped mission should include, in his opinion, four branches—education, preaching, medical and zenana work. The meeting was a successful one, a deep interest being evident in the subjects brought forward.

NOTES IN PARLIAMENT.

The Treatment of Habitual Drunkards.

SEVERAL petitions have been presented to the House of Commons during the past week in favour of legislation for the compulsory detention of habitual drunkards. They came from Manchester, Northampton, Truro, Southampton, Gravesend, Falmouth and other towns.

The Identification of Foreign Meat.

The Bill on this subject introduced by Mr. George Lambert goes much further than anything that has hitherto been proposed to Parliament in this connexion. It lays down that every person who offers foreign

meat for sale shall cause to be attached to each carcase, parcel or piece a label or mark containing in printed capital letters not less than one inch square the words "foreign meat" in such a manner as to be clearly and reasonably visible to purchasers. People selling by auction must announce the fact that the meat is of foreign origin, and if anyone supplies foreign meat to a customer who has asked for the home article he shall be deemed guilty of an offence. All importers, salesmen and wholesale or retail dealers in foreign meat shall affix in a conspicuous place, so as to be reasonably visible in front of their premises, the words "dealer in foreign meat" in letters not less than three inches square, and in addition shall give notice that they are dealing in foreign meat to the local authority, whose duty it will be to keep a register of their names. Ample penalties are provided in the Bill for the different offences, and to aid conviction it is laid down that if in any proceedings the Court shall be of opinion that a *primâ facie* case has been established by the prosecution the Court shall then require the defendant to show that the meat is not foreign and how and from whom he acquired it.

The Tuberculosis Commission.

In the House of Commons, on the 2nd inst., in answer to a question on this subject, Mr. H. Fowler stated that the Royal Commission on Tuberculosis, which was appointed in 1890, had not yet reported and he was informed that the inquiry was not yet complete.

Foot-and-Mouth Disease.

Mr. Gardner said, in reply to a query on the subject, that he had reason to believe that foot-and-mouth disease existed at the present time in every country in Europe with the single exception of Norway, and that consequently it would be inexpedient that any of the orders against the importation of such cattle should be revoked.

Glanders and Farcy.

On the 3rd inst. Mr. Gardner, in reply to Mr. Bolton, said the recent order with regard to glanders and farcy left it optional on the part of local authorities to slaughter and pay compensation for animals suffering with those diseases. As to any suggestion to alter that decision, he thought it would be better to wait to see how the order might be found to work.

Venice Sanitary Convention.

Sir E. Grey stated that the Convention relating to quarantine had been signed by all the Signatory Powers except Portugal, whose action was still dependent on the sanction of the Cortes.

Swine Fever.

On the 6th inst., in reply to Mr. E. G. Stanley, who asked if there were any intention of introducing a Bill to enable the Board of Agriculture to deal with swine fever, Mr. Gardner stated that he had arranged for the appointment of a departmental committee to consider the whole subject.

Pleuro-pneumonia.

This subject was raised by Mr. Chaplin and Mr. Long, who complained that serious injury was being occasioned to agriculturists by the restriction of the importation of Canadian cattle for feeding purposes. Mr. Gardner went into statistics, and stated his conviction that the arrival of diseased animals indicated either the existence of some unknown centre of disease in Canada or some deficiency in the law relating to the importation of cattle in the Dominion: therefore he had no alternative under the statute but to withdraw the privilege of free entry.

Vaccination.

In reply to Mr. Picton, Mr Asquith announced his intention in the course of a few days to introduce a Bill to give effect to the unanimous recommendations of the Royal Commission.

Employment of Children in Coal Mines.

The age at which children could legally be employed in coal mines was brought under consideration by a question put by Mr. Fenwick to Mr. Acland, who, in reply, expressed his conviction that the law as to school attendance was far from being satisfactory. He had arranged for the appointment of a small committee, which would set out clearly the state of things bearing on school attendance and child labour. Its report would be laid before the House. Meanwhile it would probably be well to lay down at once that no child under eleven should be totally exempt from school attendance. He would be prepared to introduce a Bill for the purpose.

Proposed Small-pox Hospital at Manchester.

Mr. H. Fowler, in answer to Mr. Maclure, said he was aware that a strong feeling existed in Manchester against the erection of a small-pox hospital. The dispute was in the first instance carried to the law courts and was decided in favour of the Corporation, a decision which was further confirmed by the Court of Appeal; so that, said Mr. Fowler, the Corporation were strictly within their rights in the course they had taken. The intervention of the Local Government Board had not been invoked.

The Use of Dangerous and Explosive Agents in Factories and Mines.

In reference to the use of dangerous and explosive agents in various manufactures and handicrafts, Mr. Woods put a question to Mr. Asquith, who, in reply, stated that the matter had been frequently considered, but he had directed further inquiries to be made. He was not, however, in a position to say whether a case had been made out for such an investigation as had been suggested.

Enteric Fever in the Island of Lewis.

In reply to a question by Mr. Weir, the Secretary for Scotland (Sir George Trevelyan) stated that on the 28th ult. the medical officer of the parish of Lochs reported an outbreak of enteric fever in the village of Cromore, in the island of Lewis, to the Board of Supervision, who at once issued peremptory orders to the medical and sanitary officers interested and to the clerk of the district to consider how best to isolate patients, to provide the temporary hospital accommodation, to remove nuisances and generally to deal with the epidemic. He (Sir George Trevelyan) had directed the Board of Supervision to keep him informed of the state of affairs, and he believed that all was being done that was possible.

Infectious Diseases Act.

In reply to Mr. Johnson Ferguson, Mr. H. H. Fowler said he was unable to state the number of sanitary authorities which had made special provision for the accommodation of persons suffering from infectious diseases, but he would be prepared to agree to a return on the subject if it were moved for.

Constantinople Board of Health.

In reply to Mr. D. Thomas, Sir E. Grey, Under Secretary for Foreign Affairs, said that the reserve fund of the Ottoman Board of Health amounted to £99,789, from which a sum of £T60,000 had lately been lent to the Ottoman Government for sanitary purposes. The sanitary fees levied on shipping during the year 1891-2 amounted to £49,615. Of these fees 39 per cent. were contributed by British shipping. No reduction in the scale had apparently been made of late years, but on the last occasion of the revision of the tariff, in 1882, H.M.'s Ambassador gave his consent to the revised scale on the distinct understanding that no increase in the charges was involved. From the correspondence on the subject of those charges it certainly appeared to have been the intention to make receipts and expenditure balance. The introduction of a system of steam launches had for some time been engaging the attention of H.M.'s Ambassador, and he reported that there were grounds for hoping that an arrangement might shortly be come to which would be satisfactory to British shipowners. Sir Clare Ford would be consulted as to the possibility of some reduction being made in the fees.

New Bills.

On the 8th inst. notices were given of the introduction of the following new Bills:—By Mr. Darling: To amend the Contagious Diseases (Animals) Act. By Mr. C. H. Wilson: To amend the Law as to Provisions supplied to Seamen. By Mr. H. S. Foster: To amend the Agricultural Labourers' Dwellings Bill. By Mr. Wharton: To amend the Law relating to Corporal Punishment.

BOOKS ETC. RECEIVED.

BAILLIÈRE, TINDALL & COX, King William-street, Strand, London.
A Manual of Diseases of the Ear. By George P. Field, M.R.C.S. Fourth Edition. Illustrated. 1893. pp. 371.
A Manual of Veterinary Hygiene. By Veterinary-Captain F. Smith, M.R.C.V.S. Second Edition. 1893. pp. 477.

BLACKWOOD, W., & SONS, Edinburgh and London.
Aberdeen Doctors; at Home and Abroad. The Narrative of a Medical School. By Ella H. B. Rodger. 1893. pp. 355.

CASSELL & Co., London.
The Year-book of Treatment for 1893. A Critical Review for Practitioners of Medicine and Surgery. pp. 496.
Hygiene and Public Health. By B. A. Whitelegge, M.D., B.Sc. Lond., D.P.H. Camb. Illustrated. Second Edition. 1893. pp. 576. Price 7s. 6d.

CHURCHILL, J. & A., New Burlington-street, London.
An Introduction to the Study of Diseases of the Skin. By P. H. Pye-Smith, M.D., F.R.S. 1893. pp. 367. Price 7s. 6d.
Galenic Pharmacy. A Practical Handbook to the Processes of the British Pharmacopœia. By R. A. Cripps. Illustrated. 1893. pp. 321. Price 8s. 6d.

DIGBY, LONG & Co., Bouverie-street, London.
Mr. P——'s Diary. Facts, Ideas, Suggestions, Reflections and Confessions. By James T. Hoskins, M.A., F.R.S.L. First Series. 1893. pp. 659.

FISCHER, GUSTAV, Jena.
Die Zell-Erkrankungen und die Geschwulstbildungen durch Sporozoen. Von Dr. L. Pfeiffer. Text und Atlas. 1893.
Anatomische Physiologische und Physikalische Daten und Tabellen zum gebrauche für Mediciner. Von Dr. H. Vierordt. 1893. pp. 400.

LEWIS, H. K., Gower-street, London.
A Dissertation on Osteo-Arthritis. By W. H. Russell Forsbrook, M.D. Lond., M.R.C.S. 1893. pp. 132.
Various Forms of Hysterical or Functional Paralysis. By H. C. Bastian, M.D., F.R.S. 1893. pp. 199.

LONGMANS, GREEN & Co., London.
Quain's Elements of Anatomy. Edited by E. A. Schäfer, F.R.S., and George D. Thane. In Three Volumes. Vol. III., Part I.:—The Spinal Cord and Brain; by Professor Schäfer. Illustrated. Tenth Edition. 1893. pp. 219. Price 12s. 6d.

MAYNE & BOYD, Corporation-street, Belfast.
Qualitative Analysis Tables and the Reaction of Certain Organic Substances. By E. A. Letts, D.Sc., Ph.D., F.R.S.E., F.C.S. 1892. pp. 91.

STRAKER BROTHERS & Co., "The Bishopsgate Press," London.
Sepsis, Saturnism, and their Congeners. By Edward Blake, M.D. Second Edition. 1892. pp. 17.

SWAN SONNENSCHEIN & Co., Paternoster-square, London.
A Treatise on Public Health and its Applications in Different European Countries. By Albert Palmberg. Translated and edited by A. Newsholme, M.D. Lond., D.P.H. Illustrated. 1893. pp. 539.
The Recrudescence of Leprosy and its Causation. A Popular Treatise. By Wm. Tebb. With an Appendix. 1893. pp. 408.

THE SCIENTIFIC PRESS, Strand, London, W.C.
Burdett's Hospital Annual and Year-book of Philanthropy. 1893. Edited by H. C. Burdett. pp. 554. Price 5s.

THE BANCROFT COMPANY, San Francisco.
Mineral Springs and Health Resorts of California. Illustrated. A Prize Essay. By Winslow Anderson, M.D., M.R.C.P. Lond., M.R.C.S. 1892. pp. 334.

"THE VEGETARIAN" PUBLISHING OFFICE, Farringdon-street, London.
Essays on Vegetarianism. By Arnold F. Hills. pp. 324.

UNWIN, T. FISHER, Paternoster-square, London.
Seventy Years of Life in the Victorian Era. By A Physician. 1893. pp. 283.

The Abattoir (Public Slaughterhouse) System (The London Model Abattoir Society).—Cottage Sanitation; by Hector Mcl. Wilson,

M.D., B.Sc., with a Preface by T. P. Teale, F.R.S.; illustrated (The Royal Agricultural Society of England, London, W., 1893); price 3d.—The "Zenith" Merino Pad (Taylor Brothers, Leeds, and the Record Press, Strand, London); price 1s.—Reforms needed in Criminal Procedure; by H. A. Lediard, M.D. Edin., F.R.C.S.; reprint.—On the Plea of Insanity in Criminal Trials; by J. W. Springthorpe, M.D. Melb., M.R.C.P. Lond., and W. L. Mullen, M.D. Melb. (C. Potter, Sydney, 1892).—The Advantages of adopting a General Scheme in making Improvements to the London Streets; by Arthur Cawston, A.R.I.B.A. (J. Truscott & Son, Suffolk-lane, London, E.C.)—Reasons why the Office of Coroner should be held by a Member of the Medical Profession; by F. W. Lowndes, M.R.C.S. (J. & A. Churchill, London, and F. & E. Gibbons, Liverpool); price 6d.—Index Medicus: Authors and Subjects; Vol. XIV., No. 12, December, 1892 (Trübner & Co., and Lewis, London).—The Veterinarian, February, 1893 (Longmans, Green & Co., London).—The Positivist Review; edited by Edwd. S. Beesly, February, 1893 (Reeves & Turner, Strand, London); price 3d.—Music and Medicine; by Dr. J. G. Blackman; reprint (Southwood Smith & Co., London, 1893).—The School Calendar and Handbook of Examinations, Scholarships and Exhibitions, 1893; by F. Storr, B.A.; seventh year of issue (Whittaker & Co., and G. Bell & Sons, London); price 1s.—Septic Intoxication; by Edward T. Blake, M.D., M.R.C.S. (The F. A. Davis Company, London and Philadelphia).—Magazines for February: Sunday at Home, Leisure Hour, Boy's Own Paper, Boy's Out-door Games and Recreations, Girl's Own Paper, Girl's Own Out-door Book (Religious Tract Society).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ADAM, T., M.B., C.M. Glasg., has been appointed Medical Officer of Health for the Shelf Urban Sanitary District of the Halifax Union, vice Britton, deceased.

ANNINGSON, B., M.D. Cantab., M.R.C.S., has been reappointed Medical Officer of Health, Cambridge.

BARROW, V. E., L.R.C.P., L.R.C.S. Edin., L.F.P. & S. Glasg., has been appointed Medical Officer and Public Vaccinator for the District of Uffculme and Willand in the Tiverton Union, vice B. G. Neale, resigned; also Certifying Surgeon under the Factories Act for the District of Uffculme, Devonshire, vice B. G. Neale, resigned.

BLISS, FRANK H., M.A., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to the Royal Hospital, Portsmouth, vice B. B. Thorne-Thorne, M.B., resigned.

CAMPBELL, P., L.R.C.P., L.R.C.S. Edin., L.F.P.S., L.M. Glasg., has been appointed Medical Officer of Health for Usk, vice Shepard, deceased.

CHADWICK, C. M., M.D., M.R.C.P. Lond., M.R.C.S., has been reappointed Honorary Medical Officer to the Victoria Home for Invalid Ladies, Headingley.

FRANCIS, LLOYD, M.A., M.D. Oxon., has been appointed Medical Superintendent to the Earlswood Asylum, vice Robert Jones, M.D.

FROSSARD, E. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Bishop Lydeard Sanitary District of the Taunton Union, vice Mead, resigned.

GRIFFITHS, A., M.B., C.M. Edin., has been appointed *pro tem.* Parochial Medical Officer and Public Vaccinator under the Parochial Board for the burgh of Falkirk, vice Peake, resigned.

HARTLEY, R. N., M.B., B.S. Lond., M.R.C.S., has been reappointed Honorary Medical Officer to the Victoria Home for Invalid Ladies, Headingley.

HEANEY, JAS. H., M.B., B.Ch. Irel., has been appointed Medical Officer for the Second Sanitary District of the Parish of St. George-in-the-East.

HENRY, ROBERT W. W., M.B., B.Ch. Dub., has been appointed Junior House Surgeon to the Birmingham and Midland Eye Hospital.

LIVESAY, A. W. B., M.B., C.M. Edin., has been appointed Resident Assistant House Surgeon to the Derbyshire Royal Infirmary.

MCCOY, J., L.R.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Officer for the Third Sanitary District of the Parish of St. George-in-the-East.

ORD, GEORGE W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Mildenhall Sanitary District of the Mildenhall Union.

PEACOCK, WM. E., M.B., B.S. Durh., has been appointed House Surgeon to the Ripon Dispensary and Cottage Hospital.

SAUNDERS, WM. S., M.D. (U.S.), L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health and Public Analyst for the City of London.

SAWYER, J. A. F., L.R.C.P., L.R.C.S. Irel., has been reappointed Medical Officer of Health, Clevedon.

WALMSLEY, F. H., M.D., has been appointed Medical Superintendent to the Metropolitan Idiot Asylum, Darenth, near Dartford.

WILLIAMS, J. LAWSON, M.B., C.M. Edin., has been appointed Medical Officer to the Tottenham and Edmonton General Dispensary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BUCKINGHAMSHIRE GENERAL INFIRMARY, Aylesbury.—Resident Surgeon and Apothecary; unmarried. Salary £30 for the first year, rising £10 per annum up to £100, with board and lodging, washing, coals and candles, and furnished apartments.

CHILDREN'S HOSPITAL, Birmingham.—Assistant Resident Medical Officer. Salary £40 per annum.

COUNTY ASYLUM, Prestwich, Manchester.—Junior Assistant Medical Officer. Salary £100 per annum with prospects of an increase.

FARRINGDON GENERAL DISPENSARY, Bartlett's-buildings, Holborn-circus, E.C.—Surgeon.

GENERAL HOSPITAL, Birmingham.—House Physician, for one year. Salary £70 per annum, with residence, board and washing.

ISOLATION HOSPITAL, Guildford.—Medical Officer for the Isolation Hospital for Infectious Diseases, at Woodbridge, Guildford. Salary £150 per annum.

LONDON LOCK HOSPITAL, Harrow-road, W.—House Surgeon to the Female Hospital. Salary £100 per annum, with board, lodging and washing.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—House Surgeon for six months.—Salary at the rate of 50 guineas per annum, with residence in the hospital, board and washing provided, and an honorarium of five guineas, conditionally.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Junior House Surgeon, for six months.

LUNESDALE UNION.—Medical Officer of the Workhouse and the Hornby district. Salary £30 per annum, exclusive of the usual fees for Midwifery cases and certain surgical operations. The salary of the District Medical Officer will be £45 per annum with the extra fees allowed by the Local Government Board orders, who will be also Public Vaccinator and receive the vaccination fees. Also Medical Officer of Health for the rural sanitary district of the Union. Salary £20 per annum. Apply to the Clerk, the Board Room, Hornby, Lancaster.

MASON COLLEGE, Birmingham.—Professorship of Gynæcology.

MASON COLLEGE, Birmingham.—Demonstrator in Physiological Department.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £120 per annum.

NORTH RIDING ASYLUM, Clifton, York.—Locum Tenens. Assistant Medical Officer for three months. Salary two guineas a week, board, lodging, washing and attendance.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £80 per annum, with board, lodging and washing.

PORT SANITARY AUTHORITY, Liverpool.—Assistant to the Medical Officer of Health. Salary £250 per annum.

ROYAL ALBERT EDWARD INFIRMARY, Wigan.—Junior House Surgeon. Salary £80 per annum, including board and apartments, but exclusive of wines, spirits and washing.

ROYAL SOUTH LONDON DISPENSARY, St. George's-cross, S.E.—Honorary Surgeon.

SALFORD ROYAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES, Northampton—Assistant Medical Officer. Salary to commence at £200 per annum, rising £25 per annum to £250, with board, lodging and washing.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London, E.C.—Anæsthetist. Honorarium £50 per annum.

THE HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—Surgeon.

THE HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—Assistant Surgeon.

THE TRAINING SHIP "EXMOUTH," moored in the River Thames off Grays, Essex.—Dental Surgeon for one year. Salary £100. (Apply to the Clerk of the Metropolitan Asylums Board, Norfolk-street, Strand, W.C.)

UNIVERSITY OF GLASGOW.—Four Examinerships for Degrees in Medicine. Annual fee in each case is £30 and the term of office is till Dec. 31st, 1896.

Births, Marriages and Deaths.

BIRTHS

FOUNTAIN.—On Jan. 30th, at Arlington park, Gunnersbury, the wife of E. Osborne Fountain, M.D., of a son.

HICKEY.—On Dec. 31st, 1892, at Sydney, N.S.W., the wife of Lewis Hickey, M.D., of a daughter.

MARRIAGES

HELM—LÖBNITZ.—On Feb. 1st, at Renfrew, N.B., by the Rev. Marcus Dill, M.A., of Alloway, assisted by the Rev. George Gillan, M.A., of Carmunnock, Robert Dundas Helm, M.D., Carlisle, to Annie Caroline, third daughter of Henry C. Löbnitz, Renfrew.

ROBERTS—GAY.—On Feb. 8th, at the Parish Church, Spilsby, by the Vicar, the Rev. Pownoll Kendall, M.A., William Lake Roberts, Surgeon, Bradford, Yorkshire, to Lizzie Florence, only daughter of John Henry Gay, Surgeon, Aveland House, Spilsby, Lincolnshire. No cards.

RUGG—SHAPLAND.—On Feb. 2nd, at Holy Trinity, Marylebone, by the Rev. A. J. Robinson, Rector, B. A. Rugg, L.R.C.P. Lond., M.R.C.S., of Avenue Lodge, Wood-green, N., to Fanny, widow of R. A. Shapland, late of Cross-park, Barnstaple.

VASSIE—SPEARS.—On Feb 8th, at Abbotshall Parish Church, Kirkcaldy, by the Rev. Bruce B. Begg, M.A., Minister of the Parish, assisted by the Rev. Wm. Vassie, B.D., Minister of Castleton, Roxburghshire (brother of the bridegroom), Alexander Henry Vassie, M.B., to Mary Janet, only child of Wm. Roy Spears, Town Clerk, Kirkcaldy. At home March 13th to 22nd. No cards.

DEATHS

BONING.—On Jan. 4th, at Wepener, Orange Free State, of typhoid fever, Arthur Wilson Boning, M.R.C.S., aged 29, formerly a student of University College, London.

DAVIS.—On the 31st ult., at Wrekenton House, Gateshead, Jane, relict of the late Robert Davis, M.R.C.S., L.S.A., in her 67th year.

NEALE.—On Feb. 4th, aged nearly 7½ years, John Talbot, only child of Dr. John Edward Neale, of Johannesburg. (By telegram.)

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

Medical Diary for the ensuing Week.

Monday, February 13.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.
LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital: 1 P.M., Mr. R. M. Gunn: Cataract.—101, Great Russell-st.: 8 P.M., Dr. Galloway: Lesions of the Alimentary Tract.—Parkes Museum (Margaret-st., W.): 3.30 P.M., Dr. Parkes: Defective Sanitary Arrangements, House Inspection.
CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road).—Mr. Lennox Browne: Simple Diseases of the Pharynx and Fauces. (Post-graduate Course.)
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. C. B. Keetley: A brief communication on a Method of Preventing Shortening after Fractures.—Mr. J. D. Malcolm: The Physiology of Death from Traumatic Fever, a Study in Abdominal Surgery.

Tuesday, February 14.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. V. Horsley: The Brain.
LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M., Dr. Payne: Seborrhœa and its Consequences.—Bethlem Hospital: 2 P.M., Dr. H. Corner: Climacteric and Senile Insanity. 101, Gt. Russell-st.: 8 P.M., Dr. Handfield-Jones: Induction of Labour.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Mr. G. Stillingfleet Johnson: The Absence of Sugar from Normal Human Urine (communicated by Sir George Johnson).—Mr. W. J. Walsham: Two cases of Knee-trouble with Difficulty in Locomotion depending upon an Elongation of the Ligamentum Patellæ, treated by Transplantation of the Tubercle of the Tibia, with Remarks.

Wednesday, February 15.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Mr. R. Godlee: Surgical Affections complicating Phthisis. Royal London Ophthalmic Hospital: 8 P.M., Mr. A. Q. Silcock: Glaucoma, with illustrative cases.
EPIDEMIOLOGICAL SOCIETY OF LONDON.—8 P.M. Mr. R. D. R. Sweeting: Post-scarlatinal Diphtheria, a Statistical Analysis.

Thursday, February 16.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Dr. Penrose: Tuberculous Disease in Childhood. National Hospital for the Paralysed and Epileptic: 2 P.M., Mr. B. Carter: Colour Blindness, Congenital and from Disease.—London Throat Hospital (Gt. Portland-st.): 8 P.M., Mr. G. Stoker: Impaired Movements of the Vocal Chords.—Central London Sick Asylum: 5.30 P.M., Mr. W. Adams: Principles of Treatment of Contractions.
CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road).—5 P.M. Dr. Dundas Grant: Intra-cranial and Constitutional Complications of Suppurative Inflammation of the Middle Ear.
HARVEIAN SOCIETY.—Clinical Evening. Mr. Malcolm Morris: Anæsthetic Leprosy.—Dr. Scanes Spicer: Cases illustrating Results in the Throat and Nose of Advanced Syphilis.—Mr. Silcock: Hyperostosis of the Cranial Bones.—Dr. Davson: Double Aorta.—Dr. Boxall: Subperitoneal Fibro-myoma exhibiting variation in size.—Mr. Roughton: Subtarsal Dislocation.

Friday, February 17.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Acland: Aneurysm of the Aorta.—Bacteriological Laboratory, King's College: 11 A.M. to 1 P.M., Prof. Crookshank: Actinomycosis (Sections).

Saturday, February 18.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. Percy Smith: General Paralysis of the Insane.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, Feb. 9th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia. in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 9.30 A.M.
Feb. 3	30·23	S.W.	45	45	..	48	44	·15	Raining
,, 4	30·37	S.W.	37	36	73	45	36	·01	Cloudy
,, 5	30·44	N.E.	34	33	47	38	31	..	Cloudy
,, 6	30·41	S.W.	30	..	68	49	29	..	Foggy
,, 7	30·22	S.W.	48	47	79	55	30	·04	Overcast
,, 8	29·91	N.W.	46	45	71	50	44	·02	Overcast
,, 9	29·92	S.W.	40	39	51	46	37	..	Cloudy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together.

We have had a large number of duplicate copies of the Index to the last half-yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

THE INDIAN LEPROSY COMMISSION.

IN reply to a correspondent who refers to some remarks made by us on the above-named Commission (see THE LANCET of JAN. 28th, p. 210) we may say that we have reason to believe the report in question will be ready for publication within the next two or three weeks.

L.R.C.P., M.R.C.S., L.S.A.—There is no tariff for such work. It must be, and can only be, appraised by our correspondent, who knows best the value of his time, the means of his patient, and the worth of his services. We would make only two remarks by way of advice. First, let no charge be made for medicines more than will cover the expenses of them and of their transmission. Secondly, while recognising that there is a "friendly" element in the relations with his patient, let the charges be such as to maintain respect for medical service.

Mr. W. Carling (Guy's Hospital).—The paper will appear in an early number.

LUZ has not enclosed his card.

SANITATION IN THE ISLE OF MAN.

SANITARY legislation is, we find, being again attempted in the Isle of Man, and a Bill to promote this important work is at present before the House of Keys. By a letter which appears in the *Manx Sun* of Feb. 4th from the pen of Mr. Alfred Haviland, M.R.C.S., however, it would seem that the measure is likely to resemble the play of "Hamlet" with the omission of its principal character. The ostensible purpose of the Bill is to provide for the defence of the island against the encroachments of epidemic disease at home and abroad. For this purpose an "inspector" is to be appointed, who is to act under the direction of the "Board" in all sanitary matters This Board is to consist of the Lieutenant-Governor, two members of the Council and two members of the House of Keys. It would appear that the framers of the measure have not thought it advisable or necessary to consult anyone versed in sanitary science; otherwise how could the absolutely essential provision of the appointment of a medical officer of health have been overlooked?

Physician.—We would advise our correspondent to apply to the National Hospital for Paralysis, Queen-square, for information as to the instruction he requires. Murrell's "Masso-therapeutics," Weir-Mitchell's "Fat and Blood," and Stevenson and Jones's "Medical Electricity" are all useful works on the subjects named.

Mr. E. Brown and *Thoughtful* should consult their usual medical attendants.

PERPLEXITIES OF DIAGNOSIS AND OTHER DIFFICULTIES.

To the Editors of THE LANCET.

SIRS,—Your opinion of the following will oblige. A man presents himself at a surgery on a Monday night with a rash all over his body, and is at first seen by the dispenser, an old Medical Staff Corps man. There being many cases of small-pox in the town, he comes to me with the words "Come and see another case of small-pox." Having seen the man, I thought it was uncommonly like measles, and said so both to the patient and his friend with him and also to the dispenser. I, however, saw the case on Tuesday and Wednesday afternoons, when, the room being dark, I procured a candle and inspected the papulæ and passed my fingers over them, having also asked the landlady to feel them. She agreed with me that they felt hard, and said herself she had no doubt it was "that dreadful disease," meaning small-pox, these being also the identical words she greeted me with on my first entering the street door. The same day I reported the case as one, in my opinion, of small-pox. The case was at once removed to the local temporary contagious hospital, and was seen at about 4.30 P.M. by the medical officer of health the same day, when he did not know himself what the case was, which the nurse informed me; but the following day, the rash of course being much fainter, he "spotted" the case as measles. On the following Saturday it came to my knowledge that the case I sent in had turned out to be measles. I called at the hospital to apologise to the patient; but what was my surprise when I saw this patient on the same bed which just before had been occupied by a most virulent case of small-pox I had sent in myself a month before and had attended for a fortnight, when I received a letter from the town clerk stating that the sanitary committee had advised the medical officer of health to take charge of small-pox cases. I expressed surprise at the patient being in the bed where a small-pox case had been after the medical officer of health knew it was only measles. Now, (1) was it proper to keep the patient in a bed which had been occupied by a small-pox case after the medical officer of health knew it was measles; and (2) has the medical officer of health any right to keep a patient against his wishes in a dangerous atmosphere when he wishes to come out? I am, Sirs, yours faithfully,

Jan. 30th, 1893. GENERAL PRACTITIONER.

*** We insert the above as an illustration of the difficulties of diagnosis in small-pox times. The presence of a measles-like eruption in some cases of small-pox before the stage of papulation is not uncommon. It is best to wait till the disease has clearly declared itself. As to our correspondent's questions: 1. A patient whose case is yet doubtful should be kept out of small-pox beds and wards and should be placed in an isolation ward.—2. When the disease is ascertained to be measles, and not small-pox, unless there is good reason to the contrary, he should be sent out.—ED. L.

THE UNITED STATES AS A FIELD OF PRACTICE.

To the Editors of THE LANCET.

SIRS,—In response to "Viajaro," may I say that an experience of nearly thirty years as a practitioner in the United States enables the writer to supplement the valuable information offered in your last Student's Number with some suggestions that may encourage your correspondent. No doubt a professional plethora exists there as elsewhere, but in no country of the world may it be said so truly of the medical art, "there is always room at the top!" A gentleman (in the broader sense), well up in his profession and confident in his own powers to a degree compatible with occasional self-effacement, may always be sure of a generous reception by his *confrères*. It will make little difference what, or how many, initials are appended to his name, if his abilities compel early recognition, and the way to such recognition is through the local medical societies, in which a membership may be easily attained. He will be addressed as "Doctor" whatever his diplomas, and will discern no other distinctions than such as would naturally attend professional age and attainments. No practice is ever considered purchasable in the States, and one's progress, if earned, will never be "opposed." No practitioner opens "branches" of his business, and no dispensing is ever done, unless in strictly rural districts. If one, for convenience, carries a "night" pocket case of medicines no charge is ever made for supplying the immediate need of a patient. Fees, which are broadly indicated by State or local medical societies for legal purposes, are very much what one chooses to make them, having regard to local custom and the patient's ability to pay. The native American values his "family physician" and rarely fails to meet his bills once in three months. The foreign population soon imitate the custom, thus falsifying the proverb, "Qui mare transcurrunt" &c. Hospitals are relatively few, even in our large cities, and are as much shunned by the industrial classes as sought for in other countries, and this is not because of any lack of the highest grade of advisory ability within their walls, but by reason of that general diffusion of a spirit of independence among the masses, the absence of which, under the "effete civilisations" of Europe, furnishes an observant American with most painful contrasts.

I am, Sirs, your obedient servant,

Jan. 31st, 1893. YALE UNIVERSITY.

THE VALUE OF DRUGS.

To the Editors of THE LANCET.

SIRS,—In an article on the above subject in the current number of the *Practitioner* the author calls attention to the undiscriminating use of the bromides and iodides of potassium. I feel sure Dr. Wilks' strictures will come as a home-thrust to too many of us. There is, however, a still greater depth reached by those who forego all mental effort in prescribing, and instead order A. B. or C.'s combination of drugs, in full assurance of faith that the desired result will follow, because forsooth the writer of the pamphlet and the goodly number of testimonials which follow say so! Pessimists are wont to declare that gratitude is a lost virtue yet surely when one reads in the little books so frequently sent through the post of the unbounded thankfulness with which some of our brethren accept a bottle of purging water or sleeping stuff, there can be no doubt that the medical profession retains the Christian grace referred to. It goes without saying that the most fulsome testimonials are transatlantic in their origin, but those from some of our own countrymen do not fall far short in their effusive character. To express surprise and admiration because a combination of drugs similar in action has an effect which is common to any one of the ingredients is akin to congratulating the *battue* shooters that in the multitude of shots some birds were killed. Let us away with treatment of our cases by proxy and use our knowledge and experience in prescribing. If the former is deficient, let the lacuna be filled up with further study. Thus will our art be not only more scientific and interesting, but our patients will, I am sure, be the gainers.

I am, Sirs, yours truly,

Weymouth-st., Jan. 14th, 1893. C. W. CHAPMAN, M.D., M.R.C.P.

"A DOCTOR'S BILL OF THE LAST CENTURY."

To the Editors of THE LANCET.

SIRS,—When looking over the contents of a box many years since I found a doctor's bill which is dated 1756, and therefore earlier than the one given in THE LANCET of Jan. 28th. The patient resided at Nocton, Lincolnshire, and as visits or journeys are not mentioned it is probable that either the doctor had no great distance to travel or the patient attended at his surgery. The bill and receipt for payment are in the same handwriting, and I pasted it in Copland's Dictionary for safe preservation. I am, Sirs, yours faithfully,

Rockley, Retford, Feb. 4th, 1893. JOHN HOUSLEY, M.D., D.P.H.

Thos. Snowden Dr. to W. Houghton.

1756.		s.	d.			s.	d.
July 16	A blister	1	0	Aug 23	An asthmatic julep...	2	0
	An asthmatic solution	2	6	Sept. 9	A pectoral febr. julep	2	6
,, 19	Another solution ..	1	6				
,, 26	The solution repd. ..	1	6			11	0

April ye 2nd, 1757. Received the Contents of this Bill for my master, W. Houghton. P. W. GYLBY.

"EXAMINATION OF RAILWAY EMPLOYÉS."

To the Editors of THE LANCET.

SIRS,—Your correspondent, "Type," will find the information he requires in Dr. Edridge-Green's work on "Colour Blindness" in the International Scientific Series published by Messrs. Kegan Paul, Trench and Co., Charing cross House, W.C. (price 5s.).

I am, Sirs, yours faithfully,

Feb. 1st, 1893. M.D., F.R.S.

During the week marked copies of the following newspapers have been received:—*Nursing Record, Warrington Guardian, Glasgow Evening News, The Umpire (Manchester), The Kansas Medical Journal, Journal of the American Medical Association (Chicago), National Medical Review (Washington), Liverpool Courier, Indian Daily News, The Statesman (Calcutta), North Devon Journal, The Journal (Carmarthen), The Manx Sun, Le Matin (Paris), Eastbourne Standard, Bradford Observer, Pioneer Mail, Times of India, Cape Argus, Health (Belfast), Southport Visitor, Hackney Gazette, Sussex News, United Service Gazette, Hastings Independent, Woodford Times, Zoophilist, Westminster Gazette, Gravesend Standard, Kentish Observer, Bath Daily Chronicle, Hampshire Advertiser, Boston Independent, Manchester Examiner.*

Communications, Letters &c. have been received from—

A.—Mr. W. S. Alexander, Sheffield; Mr. Chas. Allen, Kilburn; Messrs. Anderson and Co., London

B.—Dr. J. B. Bond, Chicago; Dr. John B. Bawden, Hampstead; Dr. Bateman, London; Mr. Henry Briggs, Liverpool; Mr. Bell, Lancaster; Mr. B. Barnard, Devonport; Herr W. Braumüller, Wien Messrs. Burgoyne, Burbidges and Co., London; Messrs Borthwick and Co., Glasgow; Messrs. John Bell and Co., London; Messrs Blondeau et Cie., London; *Birmingham Daily Post*; Brin's Oxygen Co.; The Bancroft Co., San Francisco.

C.—Dr. J. Jackson Clarke, London: Dr. A. Clemow, London; Dr. Carl Christian Schmidt, Leipzic; Dr. Charnley, Shrewsbury; Mr. F. J. Croke, Yorks; Mr. C. Clark, Wolverhampton; Mr. Edward Cotterell, London; Messrs. J. A. Carveth and Co., Toronto; Messrs. Crossley, Moir and Co., London; Messrs. Thos. Christy and Co., London; Messrs. Collins and Collins, London; C. G. J. Anderton; Chan, London; County Asylum, Prestwich.

D.—Dr. Thos. Dutton, London; Dr. A. Davies, London; Dr. Reginald Dudfield, Eastbourne; Mr. F. W. D'Evelyn, London; Mr. D. D. Dixin, Northumberland; Mr. De Fraine, Aylesbury; Messrs. Dulan and Co., Soho-square; Doric, London.

E.—Messrs. Eason and Son, Dublin.

F.—Dr. Hingston Fox, London; Dr. Theodore Fisher, London; Dr. FitzGerald, Folkestone; Mr. W. Franklin, Newcastle-on-Tyne; Mr. W. A. Frost, London; Mr. Gustav Fischer, Leipsic; *Fifeshire Advertiser*, Kirkcaldy.

G.—Dr. Chas. Gayford, London; Messrs. Gaymer & Son, Banham.

H.—Dr. E. O. Hopwood, London; Dr. Henry, Lewisham; Dr. T. W. Hime, Bradford; Dr. J. Henry, Monaghan; Mr. W. Hornibrook, London; Mr. J. Heywood Manchester; Mr. J. C. Humphreys, London; Mr. T. W. Hill, Bedford; Mr. F. H. Hawley, Timberland; Mr. J. Herbert Hodd, London; Mr. Chas. Hardman, Heywood; H. G., Southsea.

J.—Mr. G. R. Jesse, Macclesfield; Mr. Henry Jones, London.

K.—Dr. Norman Kerr, London; Dr. T. N. Kelynack, Manchester; Mr. R. C. B. Kerin, London.

L.—Dr. S. Lockie, Carlisle; Dr. J. F. Little, London; Mr. L. Lewis, Neath; Mr. C. M. Leakey, Caistor; Messrs. T. H. Lloyd and Co., Leicester; Messrs. Lee and Martin, Birmingham; Liquor Carnis Co., Tring; La Medicina Contemporanis, Madrid; L. V.; L.R.C.P., M.R.C.S., L.S.A.

M.—Dr Wm. Murray, Barrasford; Mr. A.G. Miller, Edinburgh; Mr. McNaught, co Kildare; Mr. G. A. McMundy, Bath; Mr. McMundy, Birmingham; Mr. H. Maule; Mr. William Marriott, London; Mr. D. MacMist, Ealing; Mr. J McMurtrie, Glasgow; Messrs. J. Maythorn and Son, Biggleswade; Messrs. Merryweather and Sons, London; Messrs. Mitchell and Co., London; Medicus, Liverpool; Maltine Manufacturing Co., London.

N.—North Riding Lunatic Asylum.

O.—Dr. Bernard O'Connor, London; Dr. James Oliver, Newcastle; Messrs. Orridge and Co., London; Oldham Infirmary.

P.—Dr. L. Pfeiffer, Wiemar; M. S. Pozzi, Paris; Messrs. Parke, Davis and Co., London.

R.—Mr. S. E. Rundle, Finchley; Mr. Roberts, Witheridge; Mr. A. Rahim, Lucknow; Messrs. J. Richardson and Co., Leicester; R. S. V. P., London; Readers Union Publishing Co., Lansing, Mich.; R. V.; Royal Albert Edward Infirmary, Wigan.

S.—Dr. A. Stuart, Sydney; Dr. John Stewart, Batley; Dr. S. C. Stanton, Chicago; Mr. C. D. Sutherland, Cairo; Mr. F. Sydenham, Walsall; Mr. H. Sewill, Redhill; Mr. T. E. Swan, Monaghan; Messrs. Secar and Co., Holborn; Messrs. G. Street and Co., Cornhill; Salford Royal Hospital; Sanitas Co., Bethnal-green; Strontium, London.

T.—Dr. J. C. Thresh, Chelmsford; Dr. J. Thyne, Edinburgh; Mr. W. Todd, London; Mr. Bertram Thornton, Margate; Mr. J. Dee Shapland, Exmouth; Messrs. P. D. Tuckett and Co., London.

W.—Dr. A. E. Wright, Netley; Dr. S. White, Sheffield; Dr. Hugh Woods, Highgate; Dr. J. Mackie Whyte, Dundee; Mr. Spencer Watson, London; Mr. G. Chas. Wilkin, London; Mr. S. Wood, Blackpool; Mr. Whitaker, Ottery St. Mary; Mr. Wingerath, Strasburg; Mr. John Wallace, Yorks; Mr. W. P. Walsh, Skipton; Messrs. Whitworth and Stuart, Manchester; Messrs. J. Wright and Co., Bristol; Messrs. Willows, Francis and Co., London.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. G. S. Abram, Hampstead; A., Harlesden; A. R., Chorlton-on-Medlock; Alpha, London; A. B, London; A. Z., London; A., Hatcham.

B.—Mr. H. T. Broughton, Heckmondwike; Mr. J. H. Breach, Newbury; Mr. H. H. Ballachey, Chelford; Mr. P. D. Burrell, Watton; Mr. F. H. Barford, Littlehampton; Bradford Eye and Ear Hospital; B., Boscombe; Blackburn Infirmary; Birmingham General Hospital.

C.—Mr. Croke, Beverley; *Chester Courant*; Central London Throat and Ear Hospital; Class Rooms, Edinburgh; C. S. H., Cambridge; Crux, London; Cantab., London.

D.—Sir W. B. Dalby, London; Dr. A. T. Davies, London; Mr. C. F. Davis, Gateshead-on-Tyne; Dispensing, London; D. D., London; Dewar, Bildeston.

E.—Mr. O. R. Ennion, Newmarket; Experienced, Leicester.

F.—F. M., London; F. F. D., Cambridge; F. J., London.

G.—Dr. Gairdner, Glasgow; Dr. H. W. Gardner, Shrewsbury; Mr. W. A. Grigg, Stamford; G. D., London; Gertrude, London.

H.—Dr. Hare, Waterhouses; Dr. Hawkins, London; Mr. D. Helm, Renfrew; Mr. E. H. Harden, St. Mawes; Mr. E. H. Helby, Wandsworth; Mr. A. Hall, Sawbridgeworth; Mr. H. E. Haycock, Mr. H. R. Hancock, Bursiem; House Surgeon, London.

I.—Mr. J. J. Idison, Colne; Ionic, London.

K.—Dr. F. W. Kennedy, Dublin; Dr. W. P. Kirkman, Hastings.

L.—Mr. H. Littlewood, Leeds; Mr. D. Leach, Pembroke; Messrs. Lee and Nightingale, Liverpool; Lady Propr., Southall.

M.—Dr. R. A. Moynan, Burton-on-Trent; Dr. J. S. McCodville, Glasgow; Mr. E. May, Hanwell Mr. F. S. Moger, Carshalton; Mr. Madden, Oughterard; Matron, Holsworthy; Medicus, Brixton; M.R.C.S., Harbury; Manchester Royal Infirmary; Medicus, East Dereham; Medicus, Barnley.

N.—North, London; Nemo, Sheffield; Mrs. N., Leicester.

O.—Dr. O'Clery, co. Cork; Mr. A. B. Orchard, Dublin; Miss M. Oliver, Indore.

P.—Dr. H. M. Page, London; Mr. A. E. Price, Longton; Mr. W. F. Pedler, Tiverton; Misses Parkyn, Truro; P. E., London; P. Q. R., London; P., London.

R.—Dr. Robinson, Dunscar; Dr. J. A. Ross, Harpurhey; Mr. B. A. Rugg, Wood-green; Messrs. J. Robinson and Co., Norwich; Messrs. Robinson and Sons, Chesterfield; R. E. D., London; R. E. M., London.

S.—Mr. R. W. Sisson, Newcastle-on-Tyne; Mr. F. W. Sutton, South Africa; Mr. J. Smith, Chesham; Miss Simpson, Windsor; Messrs. Stent and Sons, Guildford; S. P., London; St. Andrew's Hospital, Northampton; Superintendent Windsor.

T.—Mr. F. F. Tucker, Cheddar; Mr. Tyte, Minchinhampton; Mr. J. Thin, Edinburgh; Tibullus, London.

U.—Ulna, London; Urbanus, London

W.—Mr. J. Ward, London; Mr. C. E. Whicher, Worthing; Messrs. J. Wood and Co., York; Messrs. Walker and Grist, Hove; Miss Wethered, London.

X.—X. Y. Z., Birmingham.

Y.—Yorks, London.

SUBSCRIPTION.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year ——— £1 12 6 | Six Months ——— £0 16 3

TO THE CONTINENT, COLONIES, UNITED STATES, INDIA, CHINA, AND ALL PLACES ABROAD ——— One Year 1 14 8

"*" In consequence of the new postal arrangements, the Annual Subscription for India, China, and all foreign countries will now be reduced to £1 14s. 8d., instead of £1 16s. 10d. as formerly.

Post Office Orders and Cheques should be addressed to The Publisher, THE LANCET Office, 423, Strand, London, and crossed "London and Westminster Bank, St. James's-square."

ADVERTISING.

Books and Publications (seven lines and under)	£0 5 0
Official and General Announcements	0 5 0
Trade and Miscellaneous Advertisements	0 4 6
Every additional Line	0 0 6
Front Page	per Line 0 1 0
Quarter Page	1 10 0
Half a Page	2 15 0
An Entire Page	5 5 0

The Publisher cannot hold himself responsible for the return of testimonials &c. sent to the office in reply to advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 64, Rue Caumartin, Paris.